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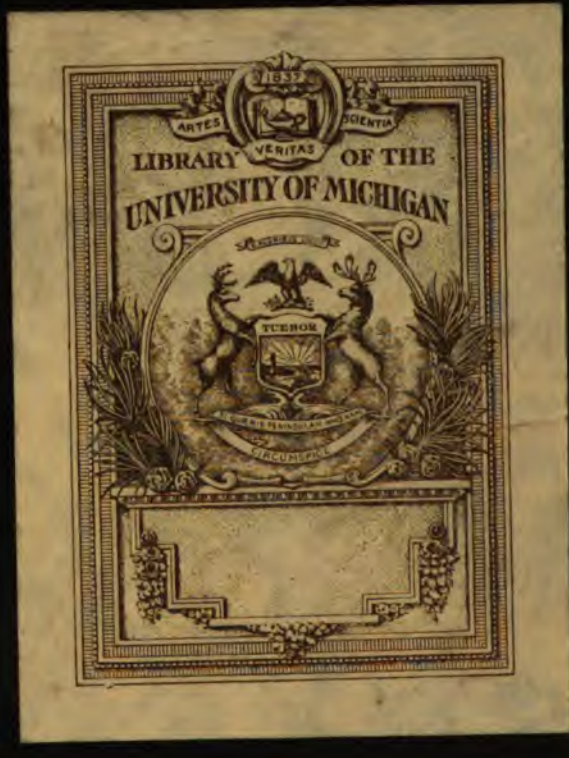
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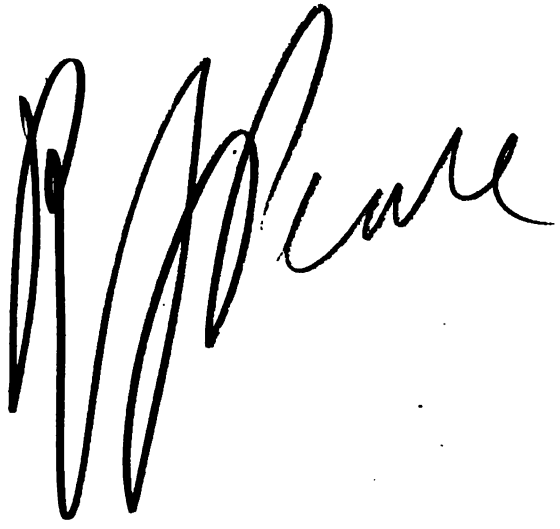

THE

MODERN FACTORY SYSTEM.

THE

MODERN FACTORY SYSTEM.

BY

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PREFACE.

FIVE years ago I published a book bearing the title "Introduction to a History of the Factory System." It was received with a degree of favour I had scarcely ventured to anticipate, and was in particular the occasion of a large number of public criticisms, invariably friendly in tone. One dominant note seemed to characterise nearly all of these: the expression of a wish, namely, that the same hand which had furnished the Introduction would supply at some time the History also, and with special reference to the labour problems of the present day. The following pages are my response to this invitation.

No one can be more fully aware than the author how inadequate that response is, and to some extent it is so necessarily. My position as an official engaged in administering the Factory Acts, while it naturally affords me much practical familiarity with this branch of the subject, imposes on me also—as I conceive—a certain reticence in dealing with it, and great caution in availing myself of any information or experience which could be traceable to the opportunities thus given. I have accordingly in all that portion of the present work written under a strong feeling of reserve, making little, or no use at all, of the mass of valuable material available in the Reports of the Inspectors of Factories and other repertories of Departmental literature, which, nevertheless, in any thoroughly exhaustive treatment of the theme, could scarcely with propriety be neglected. It has seemed to me that whatever loss the reader suffered on that account might possibly be made up by the

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absence of that official tone and bias which, under contrary conditions, would almost certainly be inferred even if it were not actually present, and that what the narrative lost in fulness might conceivably be gained in popularity of treatment. I have even occasionally preferred making quotations at second hand, rather than from original sources, with the same end in view, and in every instance have sought to quote only from such sources of information as are accessible in any fairly good public library. These sources, whether the original or not, are always carefully stated. When a book is mentioned for the first time, I have generally (always when possible, or unless it were too well-known a book to make the reference useful,) given the name of the publisher and date of publication in full, and where a quotation is made at any length have almost invariably (I have striven to do so invariably) used the author's own words. The purpose I should most of all wish the present venture to fulfil is of being a useful stepping-stone towards that really sufficient treatment of this great subject which we may surely hope for yet from English literature.

In the composition of a book dealing largely with social problems of our own time it has been impossible always to avoid debatable matter, and difficult sometimes to treat it in a purely neutral way. I have not always made then this attempt. But where my personal impressions or convictions are intruded, I have laboured to state them at least temperately, and laboured also to do justice to the arguments on the other side. On some great questions, as those of Socialism, of the true sphere of Economic Science, and of the influence of machinery on the well-being of labourers, I am conscious of having written very inadequately, but these are problems even now in process of solution, and on which a thoughtful man may well dwell lightly in view of the tremendous responsibilities involved. They are, moreover, but

indirectly connected with this history. The modern Factory System is an episode, not an element, in modern sociological development, and I have striven to maintain it consistently in that position. Not until this truth about it is firmly grasped is it ever likely to be thought about or dealt with in a truly philosophical way.

Finally, occasional backward glances have been cast at conditions of life and labour long ago; the ideals that vivified them, the permanent facts that underlay them, and the lessons they have left. That course has been designedly taken, and the author must regret that greater space and capacity were not at his command to drive those lessons home and make the connection with the present more apparent. It is, he believes, among the great thinkers of ancient Hellas, ancient Judea, and ancient Egypt (if we knew more of them), that in all human probability the worthiest discussion of many social problems which even now, though in a new guise, confront us might be found, not in the hasty, superficial, and often sordid literature of our own day.[1]

WHATELY COOKE TAYLOR.

April, 1891.

[1] Let us consider, for instance, what light a really adequate and reliable history of ancient Egypt; which within the extremely narrow confines described by Wilkinson ("Popular Account of the Ancient Egyptians," Vol. I., p. 304) contained, according to Herodotus, 20,000 *populous cities* during the reign of Amasis and was the undoubted centre of the textile industry of the ancient world; might shed upon two problems of preponderating interest today: the immigration of alien and the transference of native labour from rural to urban districts: not to mention many others.

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CHAPTER I.

THE INDUSTRIAL REVOLUTION.

The Subject Stated—The Modern Factory System—The Revolution—Population at the Time—How Distributed—Occupations of the People—Agriculture—Manufacture—Organisation of Labour—Remuneration of Labour: Wages—Commerce—Systems of Production—Analysis of these Systems—Labour and Machinery—Political Economy of this Period—Capital—Competition—General Review.

THE SUBJECT STATED.

AMONG problems of modern society which command increased attention as the nineteenth century draws to a close, that of the organisation of labour holds a specially prominent position, and among forms of organised labour the modern factory system is in many respects the most remarkable. It is in England too that it has displayed its qualities most freely and gained its largest measure of success. Yet neither here nor elsewhere do its real relations to contemporary phenomena and events seem to have been hitherto well understood, and that not merely by ordinary observers, but by statesmen and professed experts. It will be the endeavour of the following pages to make these

clearer, in the interests alike of a better comprehension of this particular mode of industry and its present condition, prospects, and results.

The system of industrial production called now specifically The Factory System first began to be naturalized in this country towards the close of the eighteenth century, but had been introduced fully three-quarters of a century earlier, and had long been preceded, both here and elsewhere, by somewhat similar systems of combined labour. In 1719 Sir Thomas Lombe erected in Derbyshire his celebrated silk "throwing mill"; which was the first English factory in the modern sense.[1] In 1732 his patent for the contained machinery expired, and this building became the model upon which numerous others, adapted to like purposes, were presently to be built. By the end of the next half-century, the country in certain parts was already dotted over with such structures, and at the close of still another, the Industrial Revolution,[2] of which they were the chief outward symbol, was well upon its way. From the expiry of Lombe's patent then, and during a subsequent hundred years of change, may best be dated the establishment of the new *régime*. But by that time (1832-3) this change in industrial methods had not only spread wonderfully, but reached a great crisis; parliament and the country were debating with extreme anxiety what was to be done in view of

[1] A description of this interesting structure is given in chapter ii., p. 70.

[2] For the title of this chapter, as well as for a part of its matter, and in some degree for the mode in which this is presented to the reader, I am indebted to a posthumous collection of essays by the late Mr. Arnold Toynbee, published by Messrs. Rivington in 1884. It was the expressed intention of Mr. Toynbee to use these as the basis of a larger work; and it must be ever a subject of regret to those who know how highly qualified he was—both by sympathy and attainments—for the task that he did not live to complete it.

it, and the first comprehensive scheme of legislation devised to modify some of its social results was on the point of being promulgated. The subject of this book is accordingly the process of those two developments: of the new form of industry, and the novel legislation in respect to it: and the period comprised is from about the middle of the last century to some fifty years ago, and in a less degree to the present day.

THE MODERN FACTORY SYSTEM.

The new form of industry was only new in certain of its parts. It resembled many earlier forms in several essential particulars, and differed from all of them in a few only. Factory systems of a kind had existed from an immensely remote past; generally indeed (though not universally) wherever production on a very large scale had been at any time carried on; and existed in England, as has been said, previous to the introduction of this one.[1] Many of the great peoples of antiquity; the Egyptians, Assyrians, Phœnicians, and their descendants the Carthaginians; for example; were well acquainted with this method, and employed it with memorable results. Others do not appear to have done so, and do not now.[2] The Greeks and Romans availed themselves very largely of it, and introduced it in countries that they subdued. It was existent in an archaic form through the Dark Ages, both in Asia and Europe,[3] and preceded and accompanied the *renaissance* in the

[1] For a more extended analysis of the terms Factory, Factory System, Manufacture, etc., see (by the present author) "Introduction to a History of the Factory System;" chap. i. (Bentley, 1886).

[2] India was the typical country in this case, but the factory system is now being rapidly introduced there under British auspices. Compare chap. viii; p. 418.

[3] Principally in south-eastern Europe; but also in the west, where it was introduced by Charlemagne.

latter. It was in operation in Europe, Asia, and Africa[1] alike during the Middle Ages; and in America—in Mexico and Peru[2]—when the imposing civilisations of those portions of the New World were first revealed to the astonished inhabitants of the old. It had strongly engaged the attention of thoughtful persons in this country before the close of the sixteenth century,[3] and already some of its more characteristic evils, commonly supposed to belong to recent developments, were exciting comment and alarm,[4] ere they came to be further aggravated, and forced into a still more painful prominence, by the startling novelties of the eighteenth. Competition amongst employers, and between employers and employed, was known and keenly felt here long before the factory system had assumed its now familiar guise; machinery had aroused the growing susceptibilities of workmen; even the "exploiting"[5] of the wage-earning operative had been carried to considerable lengths anterior to that time. These then were not new things; and in particular each one considered separately was not. What were actually new were unprecedented combinations of them under new conditions; the improved appliances with which the workers worked; and the more general use of forces other than manual for setting those improved appliances in motion. The employment of the motive power of steam was alto-

[1] In the Moorish states, where captives were often employed in the factories.

[2] For details see Prescott's histories of these countries; Letourneau's "Sociology," pp. 409-13 (Chapman & Hall, 1811); "Factory System," pp. 26-7; etc.

[3] Froude's "History of England," Vol. I., pp. 58-9 (Longmans, 1870). Compare chapter ii.

[4] For a particular instance see chap. ii., p. 55.

[5] A favourite term of modern Socialism, meaning to make profit out of another's labour. Compare chapter ii; pp. 53-6.

gether new, and from it a long train of consequences ensued which will come up for examination in due course. The provision of automatic machinery in manufacture was also new: of machinery that is given action from a prime motor, and thenceforth performing its work almost unaided: and its connection with the development of the modern factory system was at first extremely close. But further, the workers under that system were individually free, which was not the case before; they were bound neither by law nor custom to any particular factory or kind of manufacture, but at liberty to transfer their labour wheresoever, to whomsoever, and as often as they would; in every one of which, as well as in some other respects, the modern did differ from preceding factory systems, and all other systems of organised productive labour.

THE REVOLUTION.

Before proceeding to trace the substitution of this mode of industry for those others it will be desirable to take a survey of the position that labour itself occupied in England at the time of the change, and of some of its characteristics and surroundings there. The materials for such a one exist in fair abundance,[1] but only a meagre use of them can be attempted here. We shall consider shortly the population of the country before and during the period of change; the manner in which that population was industrially employed and organised; the condition of agriculture, manufacture, and commerce at certain epochs of it; the labour position in some internal relations, and in regard especially to its animating motive

[1] They are to be found, for instance, very admirably summarised in Mr. Lecky's recent "History of England in the Eighteenth Century," Vol. VI., chap. xiii.; particularly pp. 188-245 (Longmans, 1887).

spirit, and one or two other social and economical phenomena of preponderating importance. This survey will fully occupy the present chapter. Its object will be to provide a sort of background to those more pertinent details which it will be the part of succeeding chapters to supply.

POPULATION AT THE TIME.

From the expiry of Lombe's patent then (in 1732) to the present day the revolution of which we propose to speak has been in progress, and it has not yet come to an end. Previous to that date the older types of labour organisation were prevalent; at the present time they have been, or are commonly being, superseded. Within the same period an extraordinary change has occurred too in the number and distribution of the people of this country; the population has grown in an astonishing degree while it has shifted in a scarcely less remarkable one. Unfortunately, up to 1801 there are no exact figures to rely on in examining these facts. A census had been proposed as early as 1753, but the Bill for it, after passing the Commons, was thrown out in the House of Lords, and the collection of all such information relegated to individual enterprise.[1] In this absence of trustworthy data all sorts of wild estimates were formed. "During the American War," says Mr. Toynbee, "a great controversy raged on this subject. Dr. Price, an advocate of the Sinking Fund, maintained that population had in the interval between

[1] Even in the House of Commons the opposition was in some quarters very strong. Mr. Thornton, member for the City of York, declared that he "did not believe that there was any set of men, or, indeed, any individual of the human species, so presumptuous and so abandoned as to make the proposal we have just heard." . . . "I hold this project," he continued, "to be totally subversive of the last remains of English liberty!" Alas for English liberty if it depended on such champions as this!

1690 and 1777 declined from 6,596,075 to 4,763,670. On the other hand, Mr. Howlett, vicar of Dunmow, in Essex, estimated the population in 1780 at 8,691,000; and Arthur Young, in 1770, at 8,500,000 on the lowest estimate." These, however, are the extremes in either direction.[1] The computations most generally accepted now are those of Mr. Finlaison (Actuary to the National Debt Office) which were published in the preface to the Census Returns of 1831. "Now, according to Mr. Finlaison, the population of England and Wales was in 1700, 5,134,516, and in 1750, 6,039,684; an increase of not quite a million, or between 17 and 18 per cent. in the first half of the century. In 1801 the population of England and Wales was 9,187,176, showing an increase of three millions, or more than 52 per cent. in the second half." This is Mr. Toynbee's way of stating the result,[2] and it is borne out in every respect by Mr. G. R. Porter. "The increase of population in the first half of the last century"—says that writer—"appears to have been 905,368, or 17 2-3rds per cent.; while in the second half it amounted to 3,147,492, or 52 1-10th per cent."; [3] that is, it was

[1] Macaulay estimated the population in the closing decade of the seventeenth century at between 5,000,000 and 5,500,000 persons ("History of England," chap. iii.).

[2] "Lectures on the Industrial Revolution in England," by Arnold Toynbee (Rivingtons, 1884), p. 33. Among the authorities cited by Mr. Toynbee for the above calculation are "An Essay on the Population of England from the Revolution to the Present Time," by Richard Price, D.D., F.R.S. (1780); "An Examination of Dr Price's Essay on the Population of England and Wales," by Rev. John Howlett (1781); McCulloch's "Literature of Political Economy," p. 258; Young's "Northern Tour" (2nd edition, 1771); and Porter's "Progress of the Nation." Other authorities, and notably Mr. Rickman (Introductory Remarks to Census Returns of 1841), give rather different results. The precise figures are, of course, comparatively unimportant in this argument.

[3] "The Progress of the Nation," by G. R. Porter (Murray, 2nd edition, 1847), p. 13.

three times as great. "This difference in the rate of increase," says Toynbee, "is significant of the great contrast presented by the two periods." In the former, England, "though rapidly increasing in wealth owing to her extended commercial relations, yet retained her old industrial organisations; the latter is the age of transition to the modern industrial system, and to improved methods of agriculture." Since 1801 the census has been taken regularly at every decennial period: the actual increase between 1801 and 1831 (in England and Wales) amounting to even more than for the preceding half century, namely to 5,024,207—or at the rate of 56 3-5ths per cent. for those thirty years alone.[1] The new industrial system had by this time it is evident taken root, and was developing a portentous growth. From 1821 to 1831 the increase was the very highest, or at the rate of 18 per cent. But it had also by that time touched its maximum. It was less in 1841 as compared with 1831, and has remained proportionately (though in varying proportion)[2] less since. At this epoch, therefore, we may infer that the immense early demand for an increased population created by the Industrial Revolution was beginning to be more than equalled by the supply; the new factories were fully stocked. Even a great emigration had set in.[3] It marks accordingly the climax of the Revolution in this direction as in some others. Hitherto all special influences appeared as blindly working up towards that climax, and the resulting injustices and inconveniences

[1] "Progress of the Nation," p. 13.

[2] Between 1841 and 1851 it was 12·65; from 1851 to 1861, 11·93. From 1861 to 1871 it was 13·19; and from 1871 to 1881 it was 14·36.

[3] "Progress of the Nation," p. 8.

which unhappily accompanied its splendid triumphs; henceforth, many are to be found tending towards its modification and mitigation in various ways, towards its better comprehension and wiser regulation.

HOW DISTRIBUTED.

The manner in which this greatly increasing population was distributed over the country differed much at various times before and during the periods under review, the motive for the transference being generally the same. When Defoe, for instance, wrote his "Tour through the Whole Island" (in 1725) he found "the country south of Trent . . . . . by far the largest, as well as the richest and most populous."[1] "Now, if we consider," says Toynbee, "as the counties *north of Trent*, Northumberland, Durham, Yorkshire, Cumberland, Westmoreland, Lancashire, Cheshire, Derbyshire, Nottinghamshire, and Staffordshire (about one-third of the total area of England), we shall find on examination that in 1700 they contained about one-fourth of the whole population, and in 1750 less than one-third: while in 1881 they contained more than two-fifths; or, taking the six northern counties, we find that in 1700 their population was under one-fifth of that of all England; in 1750 it was about one-fifth; in 1881 it was all but one-third." The details are very pertinent. Between 1700 and 1750 the greatest increase of population took place in Lancashire (78 per cent.), and the West Riding of Yorkshire (52 per cent.); arising mainly from the vast spread of the cotton and woollen industries in those parts; in Warwickshire and Staffordshire (45 and 36 per cent. respectively),

[1] Vol. III., p. 57 (7th edition, 1769).

consequent on the development of the hardware and pottery manufactures there; in Durham (41 per cent.), resulting no doubt from the great increase of the coal industry, and the flow of population since then has followed very much the same lines, in obedience, it would seem, to like impulses. Thus in 1881 the population of the ten most densely peopled counties in proportion to the square mile (excluding the metropolitan counties of Middlesex and Surrey) was as follows:—Lancashire (a long way first), 1813; Durham, 891; Stafford (with its great pottery and iron districts), 862; Warwick (including Birmingham and neighbourhood), 825; West Riding of Yorkshire, 815; Kent (which is almost a metropolitan county), 600; Cheshire (bordering on Manchester), 582; Worcester, 515; Nottingham, 475; and Gloucester, 455: or in general terms, there are now as many as 458 persons to the square mile north of the Trent against 312 persons south of it, the motive of the change being still an industrial one. The redistribution effected in the large towns is almost equally significant. At the beginning of the eighteenth century Bristol was the second, and Norwich the third city of the kingdom, and York and Exeter came next (being about equal), as were also, coming next to them, Nottingham and Worcester. Leeds in 1685 had only about 7,000 inhabitants; Manchester, 6,000; Sheffield, Birmingham, and Liverpool not more than about 4,000 each.[1] By the middle of the next century, "while the population of Norwich had only increased according to the best authority by about one-third, and that of Worcester by one half, *their staple manufactures having*

[1] "History of England" by Lord Macaulay, Vol. I., chap. iii., pp. 166-9 (Longmans, 1880).

by that time nearly left them, the population of Sheffield had increased sevenfold, of Liverpool tenfold, of Manchester fivefold, and of Birmingham sevenfold."[1] Bristol in the same time had increased about threefold; York not at all. At present, both Manchester and Birmingham are much more than four times as large as Norwich; and Liverpool is nearly three times as large as Bristol and ten times as York. Sheffield is more than seven times as populous as Worcester; Leeds more than six times as Exeter. London, which according to Gregory King (writing in 1696)[2] contained then about 530,000 persons, contains now much over 4,000,000—probably nearer 5,000,000[3]—and is increasing at the rate of about 90,000 souls a year. Though not a factory town in the older sense it is in the much wider one established now by law the greatest manufacturing centre in the world.

OCCUPATIONS OF THE PEOPLE.

The foregoing statements in so far as the last century is concerned are little better than mere guesses (and in the opinion of some competent judges very bad guesses too), and the same difficulty besets any further enquiry into the occupations of the people at that time, and up to the period when the first census was taken. "The only estimates of occupations with which I am acquainted," writes Toynbee,[4] "are again those of

[1] "Industrial Revolution," p. 36.

[2] "Natural and Political Observations upon the State and Condition of England," by Gregory King, Lancaster Herald, 1696, p. 36 (printed in Chalmer's "Estimate," 1804).

[3] In 1881 the population within the metropolitan area was 3,814,571, but within what is known as "the fifteen mile radius" it amounted to 4,500,000, or one-sixth of the whole population of England and Wales.

[4] Page 37.

Gregory King in 1696 and Arthur Young in 1769. They are too vague and too inconsistent with one another to be relied on, but I give them for what they are worth. According to the former, freeholders and their families numbered 940,000; farmers and their families, 750,000; labouring people and out-servants, 1,275,000; cottagers and paupers, 1,300,000; making a total agricultural population of 4,265,000, against only 240,000 artizans and craftsmen." But in this enumeration the manufacturing population does not appear as a separate class; being probably divided between the agricultural and artizan classes; while a peculiarity of just the opposite kind distinguishes the next one, taken seventy years later by Arthur Young. In 1769 the occupations of the people were computed and classified by Young as follows:—

Farmers—(whether freeholders or leaseholders, their servants and labourers)...	2,800,000
Manufacturers of all kinds...	3,000,000
Landlords and their dependants, including fishermen and miners...	800,000
Persons engaged in Commerce	700,000
Non-industrious poor	500,000
Clergy and Lawyers...	200,000
Civil Servants, Army and Navy	500,000
Total	8,500,000

"But," remarks Mr. Toynbee, "the number set down to manufacturers here is probably as much too high in proportion to the total population as the total itself is in excess of the fact." It is however clear that the former class had much increased.

From the commencement of the present century we are on safer ground. The occupations of the people for the decennial periods ended respectively 1811, 1821,

and 1831, collected and classified on sounder principles, are given thus by Mr. Porter[1] :—

Persons employed in	1811.	1821.	1831.
Agriculture	895,998	978,656	961,134
Trade and Manufacture ...	1,129,049	1,350,239	1,434,873
All other families	518,868	612,488	1,018,168
Total	2,544,215[2]	2,941,383	3,414,175

The great decrease in the agricultural and increase in the manufacturing population is here undoubtedly the central feature, and it appears in a still more striking point of view (says this writer) "if a calculation be made of the positive increase in number of the families in each of the three classes during the twenty years 1811 to 1831." "It will then be seen that, while the increase in the number of families altogether was after the rate of 34 per cent., the addition to those of the agricultural class has been only 7 and 1-5th per cent., those of the trading and manufacturing class having received an accession to their numbers of 27 per cent., and those of all other classes having been in the same time very nearly doubled in number." Comparing, finally, this account with the most recent information accessible, the ratio of persons employed in various occupations in all parts of the United Kingdom is calculated as follows by Mr. Mulhall[3]:—

	For 1881.				
	England.	Scotland.	Ireland.	United Kingdom.	Total (000's omitted).
Professional	5·7	6·0	8·2	6·2	941
Domestic	16·3	11·0	17·8	16·0	2,396
Commercial	8·7	8·2	3·0	7·8	1,180
Agricultural.....	12·4	16·8	41·8	17·6	2,651
Industrial.....	56·9	58·0	29·0	52·4	7,967
	100·0	100·0	100·0	100·0	15,135

[1] "Progress of the Nation," p. 52.

[2] There appears to be an error of 300 in this addition. I have given the figures exactly as they are in Mr. Porter's usually most accurate work (2nd edition, 1847).

[3] "Dictionary of Statistics," by Michael G. Mulhall, Second Edition; Appendix, p. 499 (Routledge, 1881).

in which table we perceive not only how enormously the industrial class now preponderates over the agricultural, but even over all other classes put together.

AGRICULTURE.

Leaving now these bare statistics, let us next proceed to view the external circumstances of the country in regard to the two great branches of productive labour, as they might have appeared to any intelligent observer concerned about investigating them at this time. First as to Agriculture. In few respects, it would appear, did the England of the last century differ outwardly more from the England of to-day than in the proportion of cultivable land that was then waste, and the proportion of common land still unenclosed. Taking a period just before the beginning of the eighteenth century, and two periods during its progress, we have the following statements on this head: "Gregory King, who rather overestimated the total acreage of England and Wales, put the arable land at 11,000,000 acres; pasture and meadow at 10,000,000; houses, gardens, orchards, etc., at 1,000,000; being a total of 22,000,000 acres of cultivated land, or nearly three-fifths of the whole country." A "Land Agent," writing in 1727, believed "one half of the country to be waste." Fifty years later Arthur Young computed the area under cultivation at an immensely higher figure. Estimating the total acreage of England (England alone) at 34,000,000 acres, he concluded "that 32,000,000 of these were in arable and pasture in equal proportions."[1] This is an enormous estimate, and probably far too high, but it shows at all

[1] "Industrial Revolution," p. 38. Compare Macaulay's "History of England," Vol. I., chap. iii., p. 152 (Longmans, 1880).

events with what rapidity the waste had been coming into cultivation all through this century; it implies, that is, how rapidly the Industrial Revolution was being consummated in this sphere. Many influences conspired in fact towards that end. The increased density of population was an obvious one, requiring, of course, an ever greater food supply to be raised for its subsistence; and other very potent ones were the enclosure of commons, and the substitution of the large for the smaller system of farming. The two latter were moreover closely connected. Since the days of the Tudors enclosure of common land had been proceeding rapidly, but at first was little noticed, the enclosure from the waste that was all the while going on alongside it disguising to a great extent the real nature of the transaction. But latterly this simple method of acquiring property at the expense of others had attained great proportions. It is stated by Mr. Shaw Lefevre that 334,974 acres of common land were enclosed between 1710 and 1760, whilst nearly 7,000,000 were enclosed between 1760 and 1843.[1] The effect of so vast an absorption of common rights was either to drive the poorer cultivators from the soil or greatly to reduce their means of living, while the whole aspect of the country was transformed. Our rural population was at that time extremely backward and ignorant. "Throughout considerable districts the agrarian system of the Middle Ages still existed in full force. Some parishes had no common or waste land belonging to them, but where common lands were cultivated one and the same plan was generally pursued. The arable land of each village was divided into three great strips, subdivided

[1] "Essays on English and Irish Land Questions," p. 199.

by banks three yards wide. Every farmer would own at least one piece of land in each field, and all were bound to follow the customary tillage. One strip was left fallow every year; on the other two were grown wheat and barley; sometimes oats, peas, or tares were substituted for the latter. The meadows were also held in common. Up to hay harvest, indeed, every man had his own plot; but, while in the arable land the plots rarely changed hands, in the meadows the different shares were apportioned by lot every year. After hay harvest the fences in the meadow land were thrown down, and all householders had common rights of grazing on it. Similarly the stubbles were grazed, but here the right was rarely open to all."[1] It was impossible, of course, that such a system of cultivation could equal that upon a large scale and with ample means at command, and accordingly, "never," says Arthur Young, "were more miserable crops seen than all the spring ones in the common fields—absolutely beneath contempt."[2] But another consequence was that the class of small freeholding farmers (yeomen) who cultivated their own land became ever fewer; and they have now practically vanished. Their farms passed, whether naturally, or by force or fraud, into the estates of the great landlords, and they themselves passed away—either to the New World, to strive to lead there the life that had become obsolete at home, or into the fast rising factory towns to swell the ranks of manufacturing labourers, who in another sphere of industry were experiencing just then a like fate. Cobbett, writing in 1826, tells how, "in the parish

[1] "Industrial Revolution," p. 39.
[2] "Southern Tour," 3rd edition, p. 384 (1772).

of Burghclere, one single farmer holds by lease under Lord Carnarvon, as one farm, the lands that men now living remember to have formed fourteen farms, bringing up in a respectable way fourteen families" ("Rural Rides," Vol. II., p. 210),[1] and generally laments the change; and Sir F. Eden ("State of the Poor," Vol. II., pp. 147-8) relates how in a certain Dorsetshire village he found but two farms in existence where twenty years before there had been thirty![2] The intimate relation that must ever subsist between the land tenure of any country and all forms of its industrial production was never more clearly shown than in this instance, where, at the same time, and almost in the same manner, such similar causes were thus producing such like effects.

MANUFACTURE.

For the change that was coming over the aspect of Manufacture at the same period was not only moving parallel to this revolution in Agriculture, but there were many points of actual contact between them which help to illustrate and explain the course of each. Thus, one of the earliest, as it is one of the latest, complaints against English landlordism was of turning arable land into pasture, the object being then (though it is not so now) to breed sheep for the sake of their wool, instead of raising bread-stuffs for the sustenance of working people. That particular business had just before the commencement of the eighteenth century suffered indeed

[1] A new edition of these very valuable descriptions of rural life in England more than half a century ago has somewhat recently been published. It is edited by the Rev. Pitt Cobbett (Reeves & Turner, 1885).

[2] Compare Goldsmith's "Deserted Village," where not merely a beautiful and pathetic picture, but a singularly accurate one, of this change is provided.

a great decline, and the growers of corn were, as it happened, unusually prosperous,[1] but the woollen still remained by far the most important of all our national industries nevertheless. Its export in 1701 was worth it is true only £2,000,000; but this formed "above a fourth part of the whole export trade," [2] and the native population was clothed almost exclusively in home-made cloths. Moreover as the century advanced it rapidly extended. In 1770 it is valued by Macpherson[3] at £4,000,000; or between a third and fourth of the national export: and that, too, before the introduction of the great mechanical inventions, soon to be applied to it and so many other of our great industries. Another point of contact was the rapid increase of domestic manufacture, undertaken as a subsidiary industry to yeoman farming, and at length outstripping it when the latter began to show symptoms of decline.[4] Mr. Toynbee gives an extremely interesting account of the aspect and conditions of the chief branches of English manufacture, and especially of the woollen, while these changes were in progress. "There were three principal districts," he says, "where this was carried on." "One of them owed its manufacture to the wars in the Netherlands. In consequence of Alva's persecutions (1567-8), many Flemings settled in Norwich[5] (which had been desolate since Kit's rebellion in

[1] "Six Centuries of Work and Wages," by J. E. Thorold Rogers, M.P., chap. xvii. (Swan Sonnenschein & Co., 1884); "Industrial Revolution," p. 67.

[2] "History of the Cotton Manufacture," by Edward Baines, p. 112 (1835).

[3] "Annals of Commerce," Vol. III., p. 506.

[4] Compare chap. ii, p. 56.

[5] Norwich had been a great centre of the woollen manufacture previously, having been first established in that position by John Kempe, under the patronage of Edward III. (in 1335). See chap. ii., p. 45.

1549), Colchester, Sandwich, Canterbury, Maidstone and Southampton;" and "it was then that Norwich learned the making of those fine and slight stuffs which have ever since gone by its name, such as crapes, bombazines, and camblets; while the baize makers settled at Colchester and its neighbourhood." The "stuffs" thus introduced were known as the "new drapery," and "included baize, serge, and other slight woollen goods, as distinguished from the old drapery, a term applied to broad-cloth, kersies, etc." The second district was in the West of England. "The chief seats of the West of England manufacture were Bradford (in Wilts); the centre of the manufacture of superfine cloth; Devizes, famous for its serges; Warminster and Frome —with their fine cloth; Trowbridge and Stroud, the centre of the dyed cloth manufacture; and Taunton, which in Defoe's time possessed 1,100 looms." The district reached from Cirencester in the North, to Sherborne in the South, and from Witney in the East, to Bristol in the West, being about fifty miles in length where longest, and twenty miles in breadth where narrowest;"—"a rich enclosed country," as Defoe says, "full of rivers and towns, and infinitely populous, insomuch that some of the market towns are equal to cities in bigness, and superior to many of them in numbers of people." It was a "prodigy of a trade," and (the testimony is still Defoe's) "the fine Spanish medley cloths which this district produced were worn by all the persons of fashion in England." Mr. Toynbee thinks it was the "presence of streams, and of the Cotswold wool," which formed the industrial attractions of this district; and adds how a branch of the same industry extended into Devon, "where the merchants of Exeter

bought in a rough state the serges made in the country round to dye and finish them for home consumption or export."

The third district was in Yorkshire. Here the worsted trade was centred round Halifax, "which, according to Camden, began to manufacture about 1537; and where Leeds and its neighbourhood manufactured a coarse cloth of English wool." He forgets to mention Kendal, a very prosperous seat of the woollen manufacture at the same time and for long before; Bury and Rochdale, widely celebrated for their woollen goods from about the time of the Stuarts; and Wilton, where the art of carpet-weaving was first established by the Earl of Pembroke in 1709, from whence, forty years later, it migrated to Kidderminster.[1]

Next in importance to the woollen was the iron manufacture, largely carried on "though by this time a decaying industry," in the Weald of Sussex, and a few other places. It had reached its climax in the seventeenth century, but was still in 1724 "the principal manufacturing interest of the country:" that is we must suppose excluding the woollen. After then it rapidly fell off.[2] "The balustrades which surround St. Paul's were cast at Lamberhurst, and their weight, including the seven gates, is above 200 tons. They cost £11,000." There were no other manufactures, he says, of much consequence yet, and, in particular, "The cotton trade was still so insignificant as to be mentioned only once, and that incidentally by Adam Smith," while "even as late as 1764 our exports of cotton were still only one-twentieth of the value of the export of wool." The

[1] But carpet-weaving on a smaller scale had been carried on in the neighbourhood of London even as early as the reign of James I.

[2] Compare "Factory System," pp. 333-377. See chap. iii., p. 98, *et infra*.

hosiery industry was in process of concentration. "By 1800 the manufacture of silk hosiery was centred in Derby, and that of woollen in Leicester; but half a century earlier there were still many looms round London, and in other parts of the south of England." "In 1750, London had 1,000 frames, Surrey 350, Nottingham 1,500, Leicester 1,000, Derby 200; other places in the Midlands 7,300; other English and Scotch towns 1,850; Ireland 800; total 14,000." Silk was woven principally in Canterbury and Spitalfields; but first spun in the North, especially at Stockport, Congleton, and Derby; and in 1770 there was likewise a silk mill at Sheffield;[1] and a manufactory of waste silk, about the same time at Kendal. Coventry had already attracted the ribbon manufacture, while that of linen had nearly died out of England, but was a successful one in Ireland, and a growing one in Scotland.

The hardware business, then as now, was located chiefly in Sheffield and Birmingham; the latter town "employing over 50,000 people in that manufacture in 1727." It was not, however, nearly so much concentrated as it has become since, many small workshops being scattered about the kingdom. Polished steel was manufactured at Woodstock; locks in South Staffordshire; pins at Warrington, Bristol, and Gloucester;—where they were "the 'staple' of that city." The making of needles, introduced in the reign of Elizabeth, was spread among various villages of Warwickshire and Worcestershire, previous to becoming definitely settled at Redditch; watch-making was carried on chiefly in London and Coventry, but also in Manchester, and the making of watch machinery near Liverpool. Clock-

Compare p. 72.

making was a handicraft industry; and other handicrafts widely practised were wool-combing and crape-making; which were largely pursued in Essex; glove-making and lace-making, further south; and straw-plaiting in the midland counties. English earthenware, owing mainly to the genius of the great Wedgwood, was just entering on that career of renewed prosperity which was to more than restore the glories of 1,500 years before; the manufacture of glass was fixing itself more in the northern,[1] and of paper in the southern counties; and all these products were increasing in excellence, in variety, and in the area of their demand.

ORGANISATION OF LABOUR.

The organisation of this increasing body of labour was in a transitional state. It had not quite emerged from the characteristic conditions of a previous age, nor yet quite assumed the characteristic features of the coming one. Serfdom was illegal, but the agricultural labourer was practically dependent on the goodwill of his employer; slavery was abolished, yet even as late as 1774 miners in Scotland worked with iron collars round their necks, and were actually sold with the mines at which they wrought.[2] In manufacture, the guilds and trade societies in which artizans had hitherto been united were broken up, and no new machinery for protecting their interests had yet been substituted. Combination amongst workmen for such a purpose was even strictly forbidden, so that whilst entitled

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[1] In the middle of the eighteenth century Stourbridge was, however, particularly famous for its glass manufacture, especially its coloured glass. See "Richard Pococke's Travels through England, 1734-57" (Camden Society, 1889).

[2] "The Industries of Scotland," by David Bremner, p. 5 (A. & S. Black, 1859). The Act emancipating them was passed on the 23rd May, 1775.

to offer their services to any hirer, they were deprived of the means of doing so on equal terms; while nominally free, they were free only to sell their labour to the worst, not the best advantage. Formerly of course this had all been different. Society was constructed then on another model, in which no part was independent of the other, but each member of a group had his allotted place, and sphere of recognised duty, and share in the general result. The ancient organisation of English industry was communal, gradually passing through the manorial into the feudal type.[1] In the two earlier of those types the position of the labourer was not merely secured, he was of the essence of the self-constituted group; in the third, all individuals were very closely united in terms of mutual obligation. "When the feudal system prevailed," says Mr. Wade,[2] "a regular chain of subordination subsisted from the highest to the lowest in the community; all thought of personal independence was precluded, and each individual looked to his next superior for maintenance and protection. . . . . The tacit compact was service to the lord in exchange for maintenance to the villein; and this compact doubtless subsisted during life; for though men, by a monstrous abuse of social power, may be converted into property and treated like cattle, they cannot, like worn-out horses, be killed or left to perish when all the service they are capable of yielding has been got out of them." With the decline of feudalism, and the growth of personal liberty, this implied responsibility of man to

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[1] "Introduction to Factory System," pp. 69-75.

[2] "History of the Working Classes," by John Wade, chap. iii. (Chambers & Co., 1842).

man, and this conception of permanent obligations attached to employment, became ever less, though they had not yet quite ceased to exist at the period under review. The better class of masters still recognised a certain fellowship and fraternity with those they employed, and the worse claimed a closer authority over them, and employed persons still regarded themselves as owing some deference, and even gratitude to their employers, who not infrequently, it must be added, abused their trust.[1] It required that fuller development of the wages system, under the impulse of unchecked competition, which was to ensue, to bring about that complete change in these relations which is one of the marked economic characteristics of our time.

REMUNERATION OF LABOUR: WAGES.

The origin of wage payments is a subject of much interest to historians, and marks a definite epoch in economic progress. In English history this epoch seems to have occurred very early, worming its way by insensible gradations into the manorial and feudal constitutions. At first, all dues were labour dues, and all payments were in kind. Presently some of these began to be commuted, soon a greater number,[2] and at length all. Long before the Industrial Revolution was in full progress commutation was general. But the method of calculating wages even after this progression was by no means always of the

[1] This was especially shown in the treatment of apprentices (*infra*, chap. v.). But farm labourers, and even domestic servants, a century and a-half ago were often subjected to brutalities and indignities that can with difficulty be realised now.

[2] This portion of our country's economic development is very succinctly and admirably narrated in a recent work, "Economic History and Theory," by W. J. Ashley, M.A., Vol. I. (Rivingtons, 1888).

wholly optional kind it has since become. It was at first customary; or regulated by the corporations and trade societies; then regulated by statute; then by the local magistracy. Even as late as 1813 magistrates met in Quarter Sessions to assess wages; and later still they were subsidised by grants in aid paid out of the poor-rate—a survival of which custom may be traced in our present system of outdoor relief, as a survival of a corporate regulation is preserved in the obligations recognised as binding in certain professions in respect to fees—; and as an acknowledged aid to workmen's wages this system was abolished only in 1834.

COMMERCE.

The exterior organisation of industry was in a condition similarly transitional. Previous to the commencement of the Industrial Revolution England had laid the foundation of that great colonial empire which it was her distinguishing political characteristic throughout to consolidate,[1] but had not hitherto been specially noted as a trading country. During the Middle Ages she had been too far removed from the centre of maritime activity (which still lay in the Mediterranean) for that position, and after their termination and the discovery of the New World, Spain, Portugal, Holland, and France had respectively all been before her in availing themselves of their common proximity to the Atlantic Ocean, which was thenceforth to be its principal highway. But in the course of the eighteenth century a variety of untoward events which occurred in those countries,[2] and of surprising successes which fell to us, had the result of leaving her (towards

[1] "The Expansion of England," by J. R. Seeley, M.A.; *passim* (Macmillan & Co., 1884).

[2] "Expansion of England," pp. 92-7.

its close) a long way ahead of the first three in foreign possessions and trade, and engaged in a desperate duel with the fourth, destined to terminate likewise to our advantage. By the end of it, England and France were practically the sole remaining combatants to dispute the possession of the New World, and France was already worsted, even as she was at the same time utterly routed in India, where to all appearance she had been firmly established only a few years previously. True the closing years of the same century saw some of our fairest colonies lost in America, but they were lost more in the political than commercial sense as yet, for whilst the United States became an independent nation they remained English still in many important aspects; with a common language, literature, religion and sentiment; and the same requirements for whose fulfilment they had been hitherto accustomed to depend on us. The war once over, commerce between these countries increased in an unprecedented manner;[1] as likewise did that with the West Indies, viewed then as of even more importance. In the East Indies; where events were of course different; the general result was similar, and the same may be said of many other territories in various portions of the globe now rapidly passing under our sway. An aggregate of subject states was formed under the influence and domination of Great Britain, on which, it was picturesquely said, "the sun never set," and all of which were at first of necessity our customers.

How powerfully such great events benefited the

[1] "History of British Commerce," by Leone Levi; chap. v., p. 57 (Murray, 1872).

producing industries at home is almost beyond all calculation and need not be more particularly insisted on. The demand for English goods was suddenly multiplied many hundred times and the utmost resources of the new system taxed for the supply. But it is important to point out the impetus they gave also to the various operations of exchange, and the extent to which the Industrial Revolution penetrated there likewise. For the limited area covered formerly by commercial enterprise an area of unknown extent and indefinite possibilities had been substituted; and in place of the commercial qualities suited to cope with those earlier conditions a new type of character was required. The slow, solid, trader of the past; content with small profits, and often personally conducting his own adventure; gave place to the keen speculative merchant of to-day, trading commonly on borrowed funds, engaging in any form of business likely to be profitable, and insatiate in the pursuit of riches. The vicissitudes of foreign markets were thus added to the other novelties described already with bewildering and even alarming results. This epoch it must be remembered was not only that of England's vastest colonial expansion, and earliest great mechanical triumphs, but (in its inception) too of her most extravagant burst of speculative madness. It was the era of the South Sea Bubble, of the Mississippi Scheme, and of the thousand-and-one enterprises of a like kind that for a while greatly possessed men's minds. That particular burst of madness passed indeed away, but it heralded the approach of a new era as obviously different in the spheres of trade and commerce as of other departments of the new industrial life.

SYSTEMS OF PRODUCTION.

While these were the outward circumstances and manifestations of national economy, what (we have next to ask) were the actual conditions and modes of work of the working population, distributed over the country in the manner that has been described, providing the materials for this greatly extending commerce and more speculative trade, and sustenance for itself whilst so employed? Amid the general confusion of this transitional time we may distinguish three separate systems of production struggling for mastery, the contest resulting ever in favour of the same one of them. There was first the system of isolated handicraft labour, on the land or in the workshop, descending from the remotest times, and which had lately been deprived of its corporate character. There was next, the system of cottage industry, in which several members of a family usually participated; with or without other assistance, and also mostly handicraft; and there was the system of combined labour under a directing provider and head, in agriculture, the gang—in manufacture the factory system. The typical modern representatives of the first of these categories are the many home industries, which, under altered circumstances,[1] still remain; the story of the third is the story to be told throughout this book. But the second class is one that has left no exact counterpart behind, which has generally passed out of memory, and has certainly escaped adequate notice. At the commencement of the Industrial Revolution it was the most prevalent type of all, and principally in the greater industries. Glimpses of its methods are

[1] See chap. viii.

occasionally to be obtained through casual references in works of fiction and biography, and a few descriptions of the transitions through which it was passing may be gleaned from the few works which treat of industrial matters at all at this epoch. Thus, in Dr. Aikin's "Description of the Country round Manchester,"[1] we read of the recently introduced cotton industry (p. 158), how in the middle of the previous century "the Manchester traders went regularly on market days to buy fustian[2] of the weaver, each weaver then producing yarn or cotton as he could;" that is that the primeval system of production and exchange was still in vogue in that business. But three-quarters of a century later (1760-70), "the Manchester merchants began to give out warps and raw cotton to the weavers, receiving them back in cloth, and paying for the carding, roving, spinning, and weaving" wherein quite another one begins to manifest itself. Presently, a class of middlemen or "second-rate merchants, called fustian-masters" appear; who "gave out a warp and raw cotton to the weaver, and received them back in cloth, paying the weaver for the weaving and spinning;" and these "attended the weekly market at Manchester, and the middleman sold his pieces in the gray to the merchant who afterwards dyed and finished it."[3] The primitive system first described has now become a wholly differently organised one and business is conducted more after the modern way. In Scotland, the linen trade was so conducted

[1] "A Description of the Country from Thirty to Forty Miles Round Manchester," by J. Aikin, M.D. (London, June 4th, 1795).

[2] A coarse kind of cloth.

[3] "Compendious History of the Cotton Manufacture," by Richard Guest, pp. 10-11 (Manchester, 1823).

until much later than this; and in Ireland, up to even a quite recent period, the same happened. The great English woollen manufacture notoriously passed through such a stage; and the pottery, the iron manufacture, and several others, had a like experience.[1] Hereafter[2] we shall have much to say of this system of domestic industry, and it will be our duty to narrate more in full the circumstances and surroundings of the change that overtook it. At present we have rather to investigate what was its actual relation to other producing systems, and theirs to one another, and for this purpose a somewhat lengthy exposition is necessary, though the time and space that it must occupy will not be thrown away should we succeed in making the position clear.

ANALYSIS OF THESE SYSTEMS.

The inherent differences between the three systems of production just noted require to be pointed out with some care. Considered historically, and so far as England only is concerned, the domestic system was to a great extent the bridge that united the other two, but it was not so necessarily, either there or elsewhere. In some other modern countries, for example, it does not seem to have prevailed at all, but rather the isolated handicraft system to have passed straight into the factory system, or to have organised itself so powerfully as to continue to fulfil some of the highest functions of production without ever proceeding in that direction at all. In the distant past, again, there would clearly be little room for such an one; for under slavery it should be impossible; though there are certain signs that something very like it was known

[1] See *infra*, chap. ii.

[2] Chaps. ii., iii., viii.

both in ancient Egypt[1] and ancient Rome[2] at particular periods of their respective histories and when their systems of land tenure and other economical conditions seem to have much resembled ours.[3] Considered philosophically the distinctions are well marked and noteworthy. In the first and earliest, that of isolated individual labour, the distinctive feature economically (though of course it is not always realised politically) is, that as the product is the sole result of a single workman's labour so it is properly his sole property, while under the factory system the opposite of this is the case, it is never his sole property nor the whole result of one man's work. But further, it never can be. The very purpose and meaning of a factory is the division and combination of labour in producing a conjointly finished commodity. It matters not from this point of view whether the labour be forced or free; whether aided by exterior motive powers or all manual; the difference resides in the partitioning or non-partitioning of the productive process. The factory operative is thus only an adjunct in the general result; an obedient member of an organisation over which he has not (as the handicraftsman may have) full control. Moreover, he must go altogether with that method or withdraw from it; he cannot choose his time or mode of work, or choose or venture anything. If it stops, he stops; but if it stops

[1] "History of Ancient Egypt," by George Rawlinson, M.A., Vol. I., pp. 1584, 479 (Longmans, 1871).

[2] "The History of Rome," by Wilhelm Ihne, English Edition, Vol. IV., pp. 216, 367, *et seq.* Consult also "Cæsar: A Biography," by J. A. Froude; particularly chaps. ii. and iii.

[3] Ihne's "Rome," Vol. IV., p. 367. The remarkable similarity of the land system, and the related industries of ancient Egypt to ours, is well pointed out also by Mr. Barham Zincke in "Egypt of the Pharaohs and the Khedive," chap. xxxii. (Smith & Elder, 1873).

not he must go on, or be left behind. Now, the peculiarity of what is called the Domestic system of manufacture, differing from both the others, lay principally in another direction. The production was a household industry, under the same laws and government as any other kind of household work, dependent on the same initiative and affected by the same causes, not seldom carried on in connection with, or even subsidiary to, other processes of industry directed to quite other objects. The factory system differs from the individual system of employment primarily in the circumstances that the worker is separate from his work; nothing of his personality necessarily finding expression in it; and under the Domestic system the unit of production was simply raised from the individual to the family. But the domestic system differed also from anterior systems by being in the modern sense—free. Every individual and household adopting it were at liberty, within the limits of the common law, to play what part in industry they liked, and the common law concerned itself little, or not at all, with the part they played further than to uphold the sanctity of contract (its own creation) against all other considerations, human and divine. It differed finally from the factory and the individual systems alike in being an empirical, as opposed to an organised method of production, carried on in establishments, and under conditions, necessarily irregular and imperfect, instead of in places and under conditions especially selected for industry.[1]

[1] It is with no small satisfaction that I find myself in this lengthy analysis in substantial agreement with the accomplished author of "Das Kapital," whose great work has recently been made generally available to the British public by translation ("Capital: a Critical Analysis of Capitalist Production," by Karl Marx); Translated from the Third German Edition by

LABOUR AND MACHINERY.

The differences pointed out between these three systems, and the results that accompanied the transitions from one to another, were both complicated and greatly aggravated by the unprecedented improvements in machinery which distinguished this same epoch. The first and most obvious effect of machinery in the industrial arena is to lessen human labour, and perhaps the next most obvious one is to cheapen production. Now as to whether lessened labour is an advantage to a labourer (as such) depends upon circumstances, even if it be conceded that cheapened production always is so. Primarily, it may be assumed that the less labour anyone has to perform for an equal result the better for him, and for all, but when the labour-saving machine does not belong to himself, and a man has nothing but his labour to live upon, this need not follow. He may not then have anything to do, nor therefore anything to live upon, there will be no "result" for him at all, and this is what actually occurred in many instances as a first consequence of the Industrial Revolution. There were whole classes of labourers, both in agriculture and manufacture, thrown out of work by the substitution of machine industry for theirs, and who derived therefore, and could derive, no immediate benefit from it commensurate with the loss which they immediately sustained—while at least the same system of distributing wealth and work continued—but whereas

Samuel Moore and Edward Aveling, and edited by Frederick Engels (Swan Sonnenschein, 1887). As I shall often have to refer to this book again, I may as well say at once that where I differ from it is even more on the philosophical than on the social side, as to the limited meaning assigned to *labour* for instance, and the narrow conception of *value*, in both of which particulars I hold it to be fundamentally in error.

the system of producing wealth had been greatly altered, the principles on which it was distributed remained the same. The benefits from the machines went to the owner first, and the consumer afterwards, the unemployed wage-labourer clearly coming within neither category. Moreover, improvements in machinery carried still further that separation of the worker from his work which the increasing division and combination of labour had already fostered. He did not now contribute even a definite part to the general result, but merely watched mechanical appliances doing so. He might, perhaps, find other occupation—if he were fit for it. But the working at one set of machines does not necessarily fit a man for working at another set; on the contrary, it more usually renders him less adaptive in the very nature of the case, and this in an ever-ascending scale. He might in future obtain all the necessaries of life much cheaper, if he had the means to purchase them. But where were they to come from? Machinery is costly, and the keeping up with improved machinery more costly still;[1] and at length came into use a new motive power, the production of which was the most costly thing of all, and which once produced knew no respite or fatigue in setting all this machinery in motion.

The elements of the Industrial Revolution, in so far as they were furnished by external elements, were now accordingly all complete. The English workman of the Middle Ages had been withdrawn from the little congeries of fellow-workmen in which, either as a member of a commune, as attached to a feudal lord, or a corporate body, he had formerly found his allotted

[1] Compare p. 84.

place; he had ceased to be a yeoman, a handicraft workman, a domestic manufacturer; he had been separated more and more from personal responsibility for, and personal interest in his work, and now the very performance of this work was to be taken from him too. It is of course a magnificent spectacle. Man summonses to his assistance latent powers of Nature, dormant, or little availed of until then; he calls on them to perform the lengthiest, the most wearisome tasks which hitherto devolved on him; providing them from out his cunning mind with wonderful appliances for doing so. And they do it. The work that formerly he wrought at with anxiety and great pain they perform with ease and perfect precision; the strength which hitherto he expended to comparatively little purpose is husbanded now in only tending those indefatigable, uncomplaining, slaves. Production of all desired things is multiplied indefinitely. Sad indeed it would be if with it all the workman should really find himself no better off than formerly; sad that a great thinker —who had lived too through many years of this inventive age—was able to question "if all the mechanical inventions yet made have lightened the day's toil of any human being;" yet so wrote John Stuart Mill.[1]

To that doubt we do not subscribe.[2] That it could have been entertained by so great a man however, and, still more, have been thus formally expressed, is a very striking testimony (we hold) to the difficult problems raised by that change in industrial methods of which the modern factory system is perhaps as yet no doubt the most striking exemplar and type.

[1] "Principles of Political Economy," 7th ed. (1871).

[2] This subject is resumed chap. x.

POLITICAL ECONOMY OF THIS PERIOD.

The economic ideal which accompanied these quickly-changing social and mechanical phenomena was as novel as any of the phenomena themselves, and to it our attention must be directed next. "The essence of the Industrial Revolution," says Mr. Toynbee,[1] "is the substitution of competition for the mediæval regulations which had previously controlled the production and distribution of wealth," and "on this account"—he adds—"it is not only one of the most important facts of English history, but Europe owes to it the growth of two great systems of thought—economic science, and its antithesis Socialism." We will neither seek to disprove nor exemplify the latter of these propositions now (though it certainly cannot be accepted without much qualification), for a better occasion will arise for dealing with all that branch of the subject afterwards;[2] but we may accept at once the former assertion as extremely pertinent and quite incontrovertible. The very *soul* of the modern system is competition; not only as compared with the mediæval, but with far more ancient labour systems, and not in any sense that was ever understood before but a far wider and more unequivocal one. In another work the present writer has dealt with the genesis and development of those other systems in a brief (and doubtless crude) manner,[3] and the description cannot be repeated here. Suffice it to say, that at no period of history till quite lately was this ideal of modern times a recognised standard of rectitude in this regard, that from the time he

[1] "Industrial Revolution," p. 85.
[2] Chap. vi.
[3] "Introduction to a History of the Factory System," chap. ii.

recognised any rights and relations at all, man recognised other industrial obligations to his fellow-man than are summed up in the particular operation of barter, and its modern equivalent exchange. He associated in work with him as an equal, or supported him in it as a slave; he was joined to him by bonds of affection, religion, tradition, custom, law; all he did *not* was to keep absolutely apart from him his work being done, acknowledging no further responsibility on his behalf. We shall presently have to investigate the actual nature of this new principle, and can here afford only a rapid glance round at its influence on old ideals. That influence was displayed alike in agriculture and manufacture. The farm labourer was "divorced from the soil," just as the factory labourer was divorced from what he wrought at; neither had any longer a personal interest in his work nor a personal arbiter of his pay, but only the natural instinct to prolong life by this or some other effort, and the impersonal arbitrament of the labour market. All colleges, corporations, and associations of workers were dispersed and resolved into their elements, status succumbed to contract, personal relations to strictly "business" ones, the bonds that had so long united ancient society to the bonds that are at some future time (we are told) to knit it together again in a still stronger union.

CAPITAL.

The typical leader in this new conformation of society was the capitalist (in the modern sense), the man that is possessed of great accumulations of the realised results of previous labour which he applies to hiring other labour, and *which is his whole title to command it*. The capitalist in that sense is a comparatively

recent figure in English industry. "The capitalist employer," writes Mr. Thorold Rogers, "the first middleman, is entirely unknown till the seventeenth century; and the capitalist purchaser of raw material, the second middleman, is later still in the economy of society."[1] This is certainly too absolutely expressed. There were capitalist employers in the most modern sense, even large factory masters (as we shall see),[2] before the time mentioned, and many small employers and merchants. They differed from the feudal barons, whom they succeeded as chief employers of labour, both politically and economically, though the result to labourers was practically the same. The political difference was fundamental. The former demanded service as a right; the latter procured it by economical compulsion. The title of the first was founded on prescription; of the second on open competition. Their origin was quite dissimilar. On the emancipation of the working class, craftsmen were at first themselves the purchasers of the materials in which they worked, and hired themselves out direct to work in them. It was only when trade became very prosperous, and the poor who flocked into it from other occupations very numerous, that a class of men arose among those workpeople themselves hiring others to do their share, and being able to pay them for it. This was the genesis of the modern capitalist. His economic position is therefore from the outset that of a dealer in labour, or the implements or products of labour—which under the modern *régime* amounts to the same thing.

[1] "Six Centuries of Work and Wages," Vol. I., p. 179. By the "second middleman" we are to understand, I suppose, a *contractor*.

[2] In the next chapter.

The workman, politically free, is economically in bondage to him; for he controls the sources of his subsistence; as the feudal baron controlled them formerly; and this is his relationship to labour whether actually an employer or not, whether, that is, as an employer paying wages in money at a given time and place, as a landlord receiving it for the commercial use of his land, or as a financier speculating with it in markets however nearly or remotely removed. The modern capitalist is, in fact, the historical complement of the modern free and competitive form of society, and that which keeps it going. He buys when commodities are plenty; thereby keeping producers still at work who would otherwise have no work to do; and sells when they are scarce, thereby disbursing those commodities again just when they are needed. Of course he expects to profit by the transaction. But against the profits of capitalists must be set at all times their many losses; losses too which often fall exclusively on them; their numerous bankruptcies,[1] constant anxieties, and the length of time during which their own labour may remain unpaid whilst they are supporting other labour. The capitalist is in this sense the continual mollifier of the rigour of the competitive system, and above all things the friend of labour; and this is the position his friends claim for him in the Industrial Revolution. But under other circumstances of production and distribution such functions are viewed in quite another light, and under all circumstances they need to be closely scrutinised. In the Middle Ages and the earlier classical age, for instance, the buying up of useful commodities

[1] It is computed that over *ninety per cent.* of those who go into business fail.

when they were plenty, and selling them at an increased price when scarce, was stigmatised as a villainy, and treated as a crime. The man who traded on current necessities was considered to take an unfair advantage of his fellow-man; it was not even permitted by law that he should do so.[1] It was held that the variations of the market for good or evil ought to be enjoyed or endured by all alike: not to be turned to the profit of any individual person. Hence the stringent enactments, and still more powerful sentiment against usury, which have characterised nearly all nations, and were so particularly prominent in the teachings of the early Christian Church. Hence in Edward III.'s reign the Statutes of Labourers, when the market was (for once) in the workman's favour; and subsequently—when this single opportunity had passed—the many statutes professing to fix wages and regulate exchange. It was all to no purpose. As population and industrial complexities increased, whilst the area of trade enlarged and civil freedom spread, competition, the great leveller, stepped in to bring the best and worst intentioned schemes alike to nought.

COMPETITION.

What then actually is this powerful engine which has ousted so many deeply-pondered industrial systems, and over a great part of the world displaced them all? The answer is a strange one. It is simply the absence of all system. It is logically no more than a negation. It is in the physical world none other than that principle which is variously styled "the struggle for existence," "the survival of the

[1] Compare, for instance, "20 Henry VII., chaps. xvi. and xix." See "Industrial History of Free Nations," Vol. II., *passim* pp. 112, 314; Froude's "History of England." Vol. I., chap. i., p. 11 (Longmans, 1870).

fittest:"—in the vigorous language of Carlyle "devil take the hindmost;" the doctrine that is concisely summed up in the sarcastic aphorism that "might is right." In physics, politics, ethics, or economics it means no more than the withdrawal of all exterior control. The great engine has for its utmost purpose but to secure that "the weakest goes to the wall," and if it ever were allowed quite full play such would be its inevitable effect. But it seldom is allowed full play in civilised life, and here it is that what is specially pertinent to our subject in it comes into view. The ideal competitive system is an unrealisable one in any civilised community, for civilisation would under it lapse in anarchy. It has been carried indeed to great lengths with us in many departments of national life of late,[1] but never to its extreme lengths: not, for example, to the extent of offering the Crown to the successful competition of the highest bidder or strongest soldier, as was common enough among our Roman and Teutonic forefathers; nor of habitually exposing to death infants born into a world already fully peopled, as was recommended by Plato and Aristotle,[2] and was—we are told by Adam Smith and Malthus[3]—a favourite custom in China. Very stringent laws have on the contrary been enacted to prohibit such practices. Even the ranks of our learned professions and legislators are closed against, or subject to strict rules in restraint of competition, in most instances even to the extent of maintaining the restriction to one sex; and many

[1] In education for instance, where its effects, as should have been foreseen, have been very deteriorating.

[2] De Repub. Lib. V.; and De Repub. Lib. VII. chapter xiv.

[3] "Wealth of Nations," Book I., chap. viii.; "Essay on Population," Book I., chap. xii.

other instances might be quoted. In the industrial sphere almost alone full play is sometimes demanded for it still, and began first to be so demanded coincidently with the other changes which have now been brought into view, and with results which will appear hereafter. In that department of human affairs this purely negative impulse of action was advanced in time to the position of a precept of conduct, and advocated at length with all the enthusiasm of a dogma of faith.

GENERAL REVIEW.

We have thus endeavoured to pass rapidly in review the more obvious features of that Industrial Revolution which within a period of little more than four generations of men has burst upon us, which has possibly reached its zenith, but is certainly far as yet from having spent its force. We have considered it in relation to the number and movements of the people whilst it was taking place, to the extent and nature of their occupations, and to the principles of action by which those movements and employments were controlled. We have found the definite economic impulse at work to have been the break-up of the older industrial systems, founded on personal relations, and the substitution for them of a purely commercial ideal operating in a wide area of free contract. We have sought to analyse the nature of this new ideal which, under the name of competition, was a prime factor in the change, and to connect it with another marked characteristic of the same time, the great development of labour-saving machinery. We have tried to specify three separate systems of production which appear to have existed alongside each other at that period. Up to this point we have regarded the two great branches of productive industry, agriculture and

manufacture, about equally, for they are inextricably mingled, and ever act and re-act upon one another. From this point forward our attention must be concentrated on the former. Though agriculture and manufacture are most closely associated, they are by no means the same, or similar, either in actual fact or in the economic phenomena which they constantly display. The "laws" of agricultural and manufacturing industry are unlike; that is to say the application to them of human industry cannot ever be made in exactly the same manner, nor can ever with certainty produce the same, or necessarily like, results. Agriculture is dependent on the seasons, on the fertility of the soil, upon so fickle a thing as the weather from day to day. Manufacture is not directly dependent on these things. The land is strictly limited in supply; the capacity of manufacture is practically unlimited; for no definite bounds can be set to it. The same labour applied to the former must meet ever in the long run with a less return, whilst applied to the products of land—which are the materials of manufacture—it tends to meet ever (of its own impulse) with a greater. Thus the same economic conclusions will not necessarily apply to both; nor the same economic reasoning be always applicable. Henceforward our path lies in the direction of manufacture only, though not without an occasional side-glance at the parent industry. It will be our duty to trace the outline of its great development in recent years; and the social and legislative results thereof; so far as the lot of the worker only is concerned. With its great commercial results we have not to do. These are the staple rather of the historian of political life, to whom that phase of the mighty story may accordingly with full confidence be left.

CHAPTER II.

RISE OF THE MODERN FACTORY SYSTEM.

Early English Factories—"Jack of Newbury"—Opposition to the Early Factories—The Domestic System—Its Decay—The Stocking Manufacture—Frame Rents—First Modern Factories—Machine Industry—Spinning Machinery—A Transitional Time—Social Characteristics of this Period.

EARLY ENGLISH FACTORIES.

In the last chapter three systems of production were compared: the individual system, the domestic system, and the factory system. The first and third of these still exist alongside each other, though in different proportions and under altered circumstances; the second has almost altogether vanished. But the factory system that existed alongside the domestic system was not the modern form of it, but an anterior one. It was the lineal descendant of all the great factory systems of ancient times, differing from them principally in being served by what was more or less free labour, but differing also in the appliances used in manufacture, and the means for setting those appliances in motion. It was, we may say, the normal factory system, the more modern being an abnormal, or at least unprecedented type. The history of this earlier factory system has been all but lost in that of its portentous successor, to an extent that it requires something like an effort now to realise there was ever such a one, and a still more considerable effort to collect a few scattered references relating to it.

Yet such references; of undoubted weight and authority too; do exist, howsoever hitherto overlooked, and as for the thing itself, it not only existed here certainly as long as either the domestic or modern systems, but even at least as long as both of them combined. It will be our first duty now to display this fact.

When the Romans retired from Britain the great works they had established for the manufacture of textile fabrics, of metal, and of earthenware, were closed, and for eight or nine hundred years there were no factories. The nearest approaches to such places were the workmen's quarters attached to religious houses; to the establishments of the more powerful barons; and of the King. In these, whatever industry there was other than of the purely isolated type was to be found, but it was agglomerated not combined industry, the operatives worked under no general labour system, and the production was for use, not profit. No sooner did the restored woollen industry threaten to make a permanent settlement here, however, under the fostering care of Edward III., than a new order of things tended to arise. The making of woollen cloths began at once to aspire to the dignity of a Manufacture,[1] and some of the artifices and specialisations of the factory system to be imported into it. Already in the invitation proffered to John Kempe by that monarch, (dated from Lincoln, 3rd July, 1331),[2] some hint of the approaching change is given, for the letter is not addressed to Kempe in his individual capacity as a skilful workman only, but as

[1] See chap. i.

[2] For the history of John Kempe, the founder of the English woollen manufacture, see "Introduction to a History of the Factory System," p. 304.

one having others, and grades of others, under him The passage in question ran thus: "That if he will come to England *with his servants and apprentices of his mystery*, and with his goods and chattels, and with any dyers and fullers who may be inclined willingly to accompany him beyond seas, and exercise their mysteries in the Kingdom of England, they shall have letters of protection and assistance in their settlement." This is the version given in Strickland's "Lives of the Queens of England" (Vol. I., p. 382);[1]—the Queen of Edward III. being popularly supposed to have prompted him to this action;—where also it is implied that the first settlement of Kempe and his companions was made at Norwich. But in Nicholson's "Annals of Kendal" (p. 235)[2] the prior claim of that town is emphatically asserted, while the Letter of Protection itself (from Rymer's *Foedera*, Vol. II., p. 283) is translated and copied in full. "It does not, we believe, admit of controversy," writes Mr. Nicholson, "that the woollen manufactures of this Kingdom were first established by Act of Parliament in the town of Kendal;" and then follows the translation referred to, in which Kempe's "men, and servants, and apprentices," are more than once mentioned. Finally, in Crabtree's "History of Halifax" (p. 300)[3] still another version is given, and it is said that Kempe established himself first at York, also with others under him. It

[1] "Lives of the Queens of England from the Norman Conquest," by Agnes Strickland—"Philippa of Hainault"—(Bell & Sons, 1880).

[2] "The Annals of Kendal," by Cornelius Nicholson, F.G.S., 2nd edition (Whitaker, 1861).

[3] "A Concise History of the Parish and Vicarage of Halifax," by John Crabtree (Halifax, 1836). Compare "Introduction to a History of the Factory System," p. 304, and, for some quaint details, Fuller's "Church History," Vol. I., p. 488 *et infra* (W. Tegg, 1868).

would thus appear at all events that when this personage did come over it was not merely as the leader of an immigration of foreign workmen, but in something like the capacity of a master-manufacturer as well, and that the first step in the re-establishment of the factory system was taken coincidently with the first step in the re-establishment of the woollen manufacture—well-nigh lost to England for so many years. Nor are we wholly dependent on inference in regard to these likelihoods, nor short even of some indirect information as to the facts. Within ten years after the above we read of a certain Thomas Blanket (O, name of comfortable omen!), "one of three Flemish brothers who were the chief promoters of cloth-making in Bristol" being ordered by a local Court to pay a fine, "for having caused *various machines for weaving and making woollen cloths* to be set up in his *houses*, and *for having hired weavers and other workmen* for this purpose."[1] This was in 1340. "Now hired workmen," employed at "various machines for weaving and making woollen cloths," and within the house of one employer, implies an unmistakable factory, of however primitive a kind, established among us more than four hundred years before Lombe's, the earliest by hypothesis of the modern type.

Of what nature those machines were, what was the number of persons employed about them, their condition; and the extent to which this system of employment then prevailed, we have unhappily no means of ascertaining, but as we further learn that the neighbour-

[1] "The Romance of Trade," by H. R. Fox-Bourne, p. 104 (Cassell & Co.). See also "The Draper's Dictionary," article *Blanket* (Warehousemen and Drapers' Journal Office, London).

hoods of Bristol and Exeter had at the time in question "a very considerable proportion" of what woollen manufacture there was[1] it is in the highest degree unlikely that this experiment would stand alone. It is true the country was just then on the eve of two great calamities—the "Black Death" and Wars of the Roses —, both of which had a terribly disorganising effect on industry, and it is possible that progress in this direction may have been stayed through them awhile. But it is far from certain. It may on the other hand have been silently going on; as we know in fact it silently went on during the troublous times of the Revolution and Restoration, a hundred years afterwards. Bischoff's account is, that the woollen manufacture "continued advancing during the reigns of Richard II. and Henry IV. . . . but that after this reign it again declined exceedingly and did not thoroughly revive till the reigns of Edward VI. and Elizabeth";[2] and James declares that, whereas "On the death of Edward III. the worsted as well as the woollen manufacture, though somewhat checked in its progress, still continued to flourish to a great extent in the days of his grandson . . . unquestionably the rule of the House of Lancaster proved detrimental to the progress of the manufactures and prosperity of the nation."[3]

JACK OF NEWBURY.

Whatever was the particular march of events, the factory system was at all events not only in existence, but the increase of machinery employed under it had already become so

[1] "History of the Woollen and Worsted Manufactures," by James Bischoff, Vol. II., p. 424, *note* (Smith & Elder, 1842).

[2] "History of the Woollen and Worsted Manufactures," Vol., II. p. 424.

[3] "History of the Worsted Manufacture in England," by John James, pp. 65 and 70 (Longmans, 1857).

alarming by the time of Edward VI. that a statute (50 and 60 Ed. VI.) was passed in that reign regulating its use, whilst long before, and even by the end of Henry VII.'s, a class of great capitalists had arisen using its methods on a very large scale indeed. The most celebrated of these was John Winchcombe, Wynchcomb, or Whitcomb, commonly called "Jack of Newbury," but whose real name was John Smallwood, Winchcombe being the village in Gloucestershire whence he originated, and Newbury the town in Berkshire where his works were situated. He is the typical great master-manufacturer of our earlier factory system. Fuller included him among his "Worthies,"[1] telling of him, in his quaint way, how he "was the most considerable clothier without fancy and fiction England ever beheld." . . . . . "His looms were his lands, whereof he kept one hundred in his house, each managed by a man and a boy. . . . . In the expedition to Flodden Field, against James, King of Scotland, he marched with an hundred of his own men (as well armed and better clad than any), to show that the painful to use their hands in peace could be valiant and employ their arms in war." He was hospitable too in splendid style. "He feasted King Henry VIII. and his first Queen Katharine at his own house, extant at Newberry at this day, but divided into many tenements. Well may his house now make sixteen clothiers' houses, whose wealth would amount to six hundred of their estates." He was liberal also in other ways characteristic of his time. "He built the church of Newberry, from the pulpit westward to the tower inclusively;

[1] "The History of the Worthies of England," by Thomas Fuller, D.D. New edition, Vol. I., p. 137. (Thomas Tegg, 1840).

and died about the year 1520 . . . . . some of his name and kindred of great wealth still remaining in this country."[1]

Fuller is supposed to have derived much of his information concerning "Jack of Newbury" from Thomas Deloney's metrical romance of that name (licensed for printing in 1596), which became exceedingly popular. It contained a very curious and interesting account of this establishment, and of the modes of life and work pursued there. As the idea of a large textile factory existent in this country nearly four hundred years ago will probably be new to many persons we take the opportunity of quoting this description pretty nearly in full:—

"Within one room, being large and long,
There stood two hundred looms full strong;
Two hundred men the truth is so,
Wrought in these looms all in a row;
By every one a pretty boy
Sat making quills with mickle joy.
And in another place hard by
A hundred women merrily
Were carding hard, with joyful cheer,
Who, singing sat, with voices clear;
And in a chamber close beside
Two hundred maidens did abide,
In petticoats of stammel red,
And milk-white kerchers on their head,
Their smock-sleeves like to winter snow,
That on the western mountains flow,
And each sleeve with a silken band
Was fairly tied at the hand:
These pretty maids did never lin,
But in that place all day did spin;

[1] Compare "Romance of Trade," p. 216; Bischoff's "History of the Woollen Manufacture," Vol. I., p. 55; James' "History of the Worsted Manufacture," p. 93, &c., where similar details are given.

And spinning so with voices meet,
Like nightingales they sung full sweet.
Then to another room came they
Where children were in poor array,
And every one sat picking wool,
The finest from the coarse to cull;
The number was seven score and ten,
The children of poor silly men,
And these their labours to requite,
Had every one a penny at night,
Beside their meat and drink all day,
Which was to them a wondrous stay.
Within another place likewise,
Full fifty proper men he spies,
And these were shearmen every one,
Whose skill and cunning there was shown;
And hard by them there did remain,
Full four score rowers taking pain.
A dye-house likewise had he then,
Wherein he kept full forty men:
And also in his fulling mill,
Full twenty persons kept he still.
Each week ten good fat oxen he
Spent in his house for certainty;
Besides good butter, cheese and fish,
And many other wholesome dish.
He kept a butcher all the year,
A brewer eke for ale and beer,
A baker for to bake his bread,
Which stood his household in good stead
Five cooks within his kitchen great,
Were all the year to dress his meat;
Six scullion boys into their hands,
To make clean dishes, pots and pans;
Besides poor children that did stay,
To turn the broaches every day.
The old man that did see this sight,
Was much amazed, as well he might.
This was a gallant clothier sure,
Whose fame for ever shall endure."

Two hundred hand looms within one ... worked by a man and a boy, gives one the ... of a pretty large weaving establishment w... ever epoch it be compared. But besides th... were the *one hundred* carders singing merrily ... work, the *two hundred* spinners, equally mus... *one hundred and fifty* children picking wo... shearers, *eighty* "rowers," *forty* dyers, and fullers, in all over *one thousand* persons emp... manufacture! No wonder that it required five and six scullion boys,

> "Besides poor children that did stay,
> To turn the broaches every day"

together with a special brewer, butcher, and baker to prepare "the ten good fat oxen" weekly; the "ale," "beer," and "bread"; the "good butter, cheese, and fish," that provided sustenance for those fortunate operatives who took their meals on the premises. Such a description gives one a very vivid impression of the earlier factories from the brighter side, and of some obvious differences between them and the factories of modern times, which a closer inspection would no doubt accentuate. Nor is the picture lacking in characteristic resemblances, and touches of local colouring as well, and in the "mind's eye," says Mr. James,[1] "we picture these factory girls of ancient date in a red worsted petticoat, and kirtle or jacket (they wore no gown), with a white kerchief thrown over their heads,"—proceeding to and returning from work—"thus resembling the factory girls of these latter days, who wear the same kind of head attire, except that it is generally of a red colour."

[1] "Worsted Manufacture," p. 94.

Another large factory master of about the same epoch was Martin Brian, or Bryone, of Manchester, who (we are informed by Anderson[1]) "kept a great number of servants at work, carders, spinners, weavers, fullers, dyers, shearmen, &c.; a pretty comprehensive list of persons such as would even now be found in a large woollen factory; and other well-known ones of a rather later period were Cuthbert of Kendal and Hodgkins of Halifax, also employing many people.

OPPOSITION TO THE EARLY FACTORIES.

The factory system of the older type had therefore by this time—that is more than three hundred and fifty years ago—evidently proceeded to considerable lengths here, and with the good that it naturally brought with it in a largely increased production we should expect beforehand to find accompanying it some of the characteristic evils which have hitherto been always found to pertain to production on a very large scale. We learn, accordingly, that this was so, and in the very next reign (to Edward VI.) have proof of it in an Act of Parliament (20 and 30 Philip and Mary, cap. II.) directed against certain of them, in which too their essential nature is pointed out with such directness and lucidity as to make it worth quoting at some length. The Statute in question is called "An Act touching Weavers," and the preamble runs thus: "Forasmuch as the weavers of this realm have, as well at this present Parliament as at divers other times, complained that the rich and wealthy clothiers do in many ways oppress them, some by setting up and keeping in their houses divers looms, and keeping and maintaining them by

[1] "History of Commerce," Vol. II.

journeymen and persons unskilful, to the decay of a great number of artificers which were brought up in the said science of weaving, with their families and their households, some by engrossing of looms into their hands and possession, and letting them out at such unreasonable rents as the poor artificers are not able to maintain themselves, much less to maintain their wives, families, and children; some also by giving much less wages and hire for weaving and workmanship than in times past they did, whereby they are enforced utterly to forsake their art and occupation wherein they have been brought up; it is, therefore, for remedy of the premises, and for the avoiding of a great number of inconveniences which may grow if in time it be not foreseen, ordained and enacted by authority of this present Parliament, that no person using the feat or mystery of cloth-making, and dwelling out of a city, borough, market-town, or incorporate town, shall keep, or retain, or have in his or their houses or possession, any more than one woollen loom at a time, nor shall by any means, directly or indirectly, receive or take any manner of profit, gain, or commodity, by letting or setting any loom, or any house wherein any loom is or shall be used or occupied, which shall be together by him set or let, upon pain or forfeiture for every week that any person shall do the contrary to the tenor and true meaning hereof, twenty shillings." A provision then follows limiting weavers living in towns to two looms, "the plain intention being," says Mr. Froude (from whom the above extract is taken),[1] "to prevent the cloth manufacture

[1] "History of England," Vol. I, p. 57-9 (Longmans, 1870).

from falling into the power of large capitalists employing 'hands,' and to enable as many persons as possible to earn in their own homes their own separate independent living. I suppose," he adds, "that the Parliament was aware that by pursuing this policy the cost of production was something increased, that cloth was thus made dearer than it would have been if trade had been left to follow its own course. It considered, however, that the loss was compensated to the nation by retaining its people in the condition, not of 'hands,' but of men, by rendering them independent of masters, who only sought to make their own advantage at the expense of labour, and enabling them to continue to maintain themselves in manly freedom."

In the reign of Elizabeth the factory system undoubtedly spread in England; as it continued to do during the subsequent periods of the Stuarts and Civil Wars, especially in the Eastern Counties, and more particularly at Norwich. The dissatisfaction of the operatives spread with it. The popular literature of the day is full of evidence to this end, and a single specific proof of it may be quoted in a ballad cited by Lord Macaulay[1] as having been "chaunted about the streets of Norwich and Leeds" in the reign of Charles II., wherein the typical master-manufacturer and workman of the time are introduced, and the former delivers himself thus:

> "We will make them work hard for sixpence a day,
> *Though a shilling they deserve if they had their just pay;*
> If at all they murmur and say 'tis too small,
> *We bid them choose whether they'll work at all.*

[1] "History of England," by Lord Macaulay, Vol. I., p. 204 (Longmans, 1880).

And thus we do gain all our wealth and estate,
By many poor men that work early and late.
Then hey for the clothing trade! It goes on brave.
We scorn for to toyl and moyl, nor yet to slave;
Our workmen do work hard, but we live at ease,
We go when we will and we come when we please."

The principle of unlimited competition in human labour is celebrated here in terms such as would do honour to the most unscrupulous employer of the worst modern type.

THE DOMESTIC SYSTEM.

For about a century more this earlier factory system flourished in England, as it flourished at the same time in France,[1] and had flourished (with some variations) long before in Greece, Spain, Italy, and the East, previous to its overthrow by the great changes of modern times. But there was growing up alongside it here meanwhile another labour system, with which indeed many analogies may be traced in other times and places, but which had certain distinctive national characteristics as well, attributable partly to political, partly to civil, and partly (perhaps) to physical circumstances peculiar to our country.[2] This was the system which is generally called the Domestic System, and some of whose intrinsic qualities we have already endeavoured to isolate and specify at some length.[3] It will be necessary to deal now, also at some length, with its extrinsic

[1] For some account of the rivalry to which England was subjected by the introduction of the earlier factory system into France, particularly under Henry IV. and Colbert, consult James' "History of the Worsted Manufacture," chap. v. *passim*; also Bischoff's history on the same subject. Vol. I., pp. 76-80. See further Ure's "History of the Cotton Manufacture," Introduction (Charles Knight, 1836).

[2] Compare Mr. Felkin's observations on the Stocking Industry quoted at p. 32 of the present chapter.

[3] Chap. i., p. 28 *et seq.*

qualities as well; to view it that is from the historical and practical, rather than, as formerly, principally from the philosophical side.

The rise of this particular mode of labour proceeded primarily from the decay of the previous feudal and municipal systems, and found in England a specially congenial home owing to the gradual course of those transitions here and to the very rapid progress towards freedom of the labouring population. The feudal was never in itself, of course, an industrial system; though industry was often compelled to seek its protection; but the municipal had from the first a definitely industrial as well as political side, which not seldom had given the life-impulse to the whole organism in the first instance. But with the break-up of the guilds, occurring nearly contemporaneously with that of the feudal system, no definite organisation of industry outside the towns remained, while at the same time the protection of these became less a necessity and the elaborate trade regulations within them grew ever more out of harmony with the spirit of the age.[1] The foreign artizans (who were continually coming over to England) began therefore to settle less in such towns than heretofore, and more in their vicinities, or even to seek voluntarily (as they had formerly been compelled to accept) for their locations[2] wild and unfrequented districts, where a little patch of land could

[1] The bye-laws made by corporations, guilds, and trade fraternities of different kinds, had at length become so oppressive and pernicious that Lord Bacon went the length of styling them "fraternities in evil," and in Henry VII.'s reign an Act was passed (19 Henry VII.) to restrain them from promulgating further injurious rules.—Macpherson's "Annals of Commerce," Vol. II., p. 16.

[2] Compare "Introduction to a History of the Factory System," p. 283.

be had for the asking (or without it), and the means of immediate livelihood thus to some extent secured. Occasionally native operatives would migrate thither from the large towns as well, as Bristol and Norwich, under the influence of like motives, or of the equally comprehensible one of finding freer scope for their exertions, hampered beyond endurance by local privileges and monopolies. But besides the above there were some who sought those fertile dales and breezy uplands primarily for farming purposes—as yeomen cultivators,—whether the cultivation of the land or the care of stock was their immediate object, and these would be well inclined in the absence of any law or custom to the contrary to add a little manufacturing to their other work, especially when the latter was not remunerative and the former was continually more so. How better could they spend the long winter days and nights? How else provide indeed for their own immediate wants in those unfrequented parts? And in time this mode of business became a very lucrative one, resting as it did on the two great departments of productive industry, whilst exclusively dependent on neither, and developing, as it did, in comparative freedom from the cramping regulations whether superimposed or self-imposed which still clung about populous places more than others. During the time and at the places that the most favourable conditions prevailed in it, it even ran the factory system that flourished alongside a close race for precedence, and it had many advantages over industries conducted by the exclusively individual or corporate methods, still principally confined to towns. Our great cotton manufacture first rose to eminence during this condition of

things; and passed most rapidly out of it; and it is from these circumstances (united indeed with some others) that the story of the modern factory system is often considered to be studied best in that connection. This manufacture, it may be remarked, was still always of the hybrid kind: the warp being invariably of linen yarn, imported chiefly from Ireland and Germany (for flax was scarcely grown in England): and it settled principally in Lancashire. Samuel Bamford, a practical workman of the time, has described a typical domestic manufacturer's household of this period just previous to the establishment of the new industrial system. "Farms," he says, "were then mostly cultivated for the production of milk, butter, and cheese. Oats also, for the family's consumption of meal in the form of porridge and oaten cakes, would be looked after; and a small patch of potatoes, when they had come into general use, would probably be found on some favourable bank attached to each farm. The farming was generally of that kind which was soonest and most easily performed, and it was done by the husband and other males of the family, whilst the wife and daughters and maid-servants, if there were any of the latter, attended to the churning, cheese-making, and carding, slubbing, and spinning of wool or cotton, as well as forming it into warps for the loom. The husband and sons would next, at times when farm labour did not call them abroad, size the warp, dry it, and beam it in the loom, and either they or the females, whichever happened to be least otherwise employed, would weave the warp down. A farmer would generally have three or four looms in his house, and then, what with the farming, easily and leisurely though it was performed, what with

the house work, and what with the carding, spinning, and weaving, there was ample employment for the family. If the rent was raised from the farm, so much the better; if not, the deficiency was made up from the manufacturing profits."[1] "In the year 1770," says Mr. Radcliffe,[2] "the land in our township was occupied by between fifty to sixty farmers; rents, to the best of my recollection, did not exceed ten shillings per statute acre, and out of these fifty or sixty farmers there were only six or seven who raised their rents directly from the produce of their farms; all the rest got their rents partly in some branch of trade, such as spinning and weaving woollen, linen, or cotton. The cottagers were employed entirely in this manner, except for a few weeks in the harvest. Being one of those cottagers, and intimately acquainted with all the rest, as well as every farmer, I am better able to relate particularly how the change from the old system of hand labour to the new one of machinery operated in raising the price of land. Cottage-rents at that time, with convenient loom-shop and a small garden attached, were from one-and-a-half to two guineas per annum. The father of a family would earn from eight shillings to half-a-guinea at his loom, and his sons, if he had one, two, or three alongside of him, six or eight shillings per week; but the great sheet-anchor of all cottages and small farms was the labour attached to the hand wheel; and when it is considered that it required six or eight hands to prepare and spin yarn of any of the three materials I have mentioned, sufficient for the

[1] "Dialect of South Lancashire," Introduction, p. 4.

[2] "Origin of the System of Manufacture commonly called Power-Loom Weaving," by William Radcliffe; pp. 59-66 (Stockport, 1828)

consumption of one weaver—this shows clearly the inexhaustible source there was for labour for every person from the age of seven to eighty years (who retained their sight and could move their hands) to earn their bread;" . . . . and of the worsted manufacture about the same period Mr. James gives the following very interesting particulars: [1] "The work was entirely domestic, and its different branches widely scattered over the country. First, the manufacturer had to travel on horseback to purchase his raw material amongst the farmers, or at the great fairs held in those old towns that had formerly been the exclusive markets, or, as they were called, 'staples,' of wool. The wool safely received was handed over to the sorters, who rigorously applied their gauge of required length of staple, and mercilessly chopped off by shears or hatchet what did not reach their standard as wool fit only for the clothing trade. The long wool then passed into the hands of the combers, and, having been brought back by them into the combed state, was again carefully packed and strapped on the back of the sturdy horse to be taken into the country to be spun. . . . . Here, at each village, he had his agents, who received the wool, distributed it amongst the peasantry, and received it back as yarn. The machine employed was still the old one-thread wheel, and in summer weather on many a village green might be seen the housewives plying their busy trade, and furnishing to the poet the vision of contentment spinning at the cottage door.[2] Returning, in safety with his yarn, the manufacturer had now to

[1] "History of the Worsted Manufacture," p. 323.

[2] Compare Wordsworth's fine sonnet commencing, "Nuns fret not at their convent's narrow room."

seek out his weavers, who ultimately delivered to him his *camblets*, or *russels*, or *serges*, or *tammies*, or *calimancoes* (such were then the leading names of the fabrics), ready for sale to the merchant, or delivery to the dyer."

ITS DECAY.

The real employer of labour under such a system as the above was practically the merchant, the act of producing the finished commodity being split up into a number of independent parts, and the producers having no conscious connection with one another. But the merchant of those days led a very different life from the merchant of to-day. Thomas Walker has described in *The Original*[1] the life of a Manchester merchant, born at the beginning and probably in full career about the middle of the eighteenth century, that is just before the transitional time; and this description will supplement in a very useful manner those gone before. "He sent the manufactures of the place into Nottinghamshire, Lincolnshire, Cambridgeshire, and the intervening counties, and principally took in exchange feathers from Lincolnshire, and malt from Cambridgeshire and Nottinghamshire. All his commodities were conveyed on pack-horses, and he was from home the greater part of every year, performing his journeys leisurely on horseback. His balances were received in guineas, and were carried with him in his saddle bags. He was exposed to the vicissitudes of the weather, to great labour and fatigue, and to constant danger." It was an advance on this method of doing business, he says, when the merchant, instead of going

[1] "The Original," by Thomas Walker, M.A., p. 121; Morley's Universal Library (Routledge, 1887).

himself, "sent deputies round to the principal towns with goods in packs, which they opened and sold to shopkeepers, lodging what was unsold in small stores at the inns, and bringing back sheep's wool, which was bought on the journey, and sold to the makers of worsted yarn at Manchester, or to the clothiers of Rochdale, Saddleworth, and the West Riding of Yorkshire." On the improvement of turnpike roads, waggons were brought into use, pack-horses were partly discontinued, and the chapmen "rode out only for orders, carrying their patterns in their bags." It was during the forty years from 1730 to 1770, Dr. Aiken thinks,[1] "that trade was greatly pushed by the practice of sending these riders all over the kingdom to those towns which before had been supplied from the wholesale dealers in the capital places before mentioned," and "as this was attended, not only with more trouble, but with much more risk, some of the old traders withdrew from business, or confined themselves to as much as they could do on the old footing, which, by the competition of young adventurers, diminished yearly." The clothiers mentioned in these extracts were not of course makers of garments—though some might be so—but manufacturers of (principally) woollen goods. They were factory masters, having those establishments of workmen at Norwich, Newbury, and elsewhere which have been occasionally mentioned, and which co-existed with the other methods of production and relied partly on them; or they were identical with the "merchants" just described. Norwich, for instance, contained besides its factories many separate individual weavers,

[1] Aiken's "Description of the Country round Manchester," p. 183.

as did also Sudbury, Lavenham, and other neighbouring towns, which "obtained their material (wool) from the counties of Norfolk, Suffolk, Essex, Cambridgeshire, and Bedford, where the yarns were spun in the cottages of the peasants, and sometimes in the kitchen of the farmer, under the management of a number of master combers, men of property and intelligence residing in various isolated parts of these counties, but whose headquarters were Norwich and Bury." Kendal had many such handicraft workers in and around it besides such as were congregated in factories.[1] Manchester, Bolton, and other towns in Lancashire, were in a like case. The same method flourished at the same time in full vigour in the vicinities of Leeds and Halifax, and throughout the romantic dales of Yorkshire: "whither the coarse cloth trade of Norwich was now being attracted, to be followed at no great interval by the fine trade of the South and West of England:" and Defoe has left a spirited and very interesting description of the class of persons into whose hands this trade was just then passing (Defoe's Tour, III., 144-6). "The land near Halifax," he says, "was divided into small enclosures, from two acres to six or seven each, seldom more. Every three or four pieces of land had an house belonging to them . . . hardly an house standing out of a speaking-distance from another. . . . . We could see at every house a tenter, and on almost every tenter a piece of cloth, or Kersie or Shallon. . . At every considerable house was a *manufactory*. . . Every clothier keeps one horse at least to carry his

[1] Nicholson's "Annals of Kendal," p. 237.

manufactures to the market; and generally a cow or two, or more, for his family. . . . The houses are full of lusty fellows, some at the dye-vat, some at the looms, others dressing the cloths; the women and children carding and spinning, being all employed from the youngest to the oldest. . . . Not a beggar to be seen, nor an idle person."[1] This is an extremely pleasant picture; but the shadow of a great change is already visible in it. Within the circuit of such a conformation of labour we begin to notice the germs of a more capitalistic form of production, the deadly enemy of the domestic system, and fated presently to bring it to a close. Labour, we observe, has become more divided and combined, and the domestic manufacturer is blossoming into a trader as well as a producer. It is easy to perceive too how circumstances might from time to time occur that would surely ripen these germs. A season of bad trade would throw the weaker competitors for the merchant's orders out of employment, a good season offer great inducements to the more thrifty workmen to become masters. These latter were moreover the times just then uppermost. We are not surprised to learn, accordingly, that small master manufacturers had by the beginning of the nineteenth century increased greatly, nor that new developments, both in production and distribution, were resulting. As late as 1806 the number of such small masters in Leeds and its environs was estimated as highly as 3,500; and "each master employed on the average ten journeymen and apprentices, the rule being one apprentice to two or three journeymen."

[1] Quoted in "Industrial Revolution," p. 53.

"He was regularly assisted by his wife and children;" but, "the latter, when working with their father, were not compelled to be bound by indenture." A sort of mixed method for a while prevailed. "As a rule those employed worked in their master's house, where the wool was passed through all its various stages until it became dressed cloth, and even, if necessary, dyed. Sometimes, however, the journeymen did the work in their own houses."[1] Mr. Howell[2] considers this to have been as yet but an extension of the system of domestic industry; the finished work being produced by dissipated not concentrated labour, and amongst surroundings essentially domestic. But "with the origin of machinery (that is of the new machinery) and the consequent division of labour," there came (he says) a complete change. "The various processes, which had heretofore been chiefly performed by hand under the master's own roof, began now to be executed in public *mills*, in which, in one or more buildings, as the case happened, the operatives worked up the materials belonging to the manufacturers under the supervision of overseers appointed by the employers." Such an organisation of labour could no longer by any stretch of meaning be called domestic; and the transition to that factory system which is the proper subject of this work comes therefore at this point definitely into view.

THE STOCKING MANUFACTURE.

It will be desirable, however, both for historical and technical reasons, before treating more particularly of it, to add

[1] "Conflicts of Capital and Labour," p. 84.

[2] *Idem*, p. 87. It should be mentioned that these extracts from Mr. Howell's book are copied almost verbatim from Dr. Brentano's "History of Guilds," pp. 105-7 (Trübner & Co., 1870); but the context is so very valuable that I prefer to take them at second-hand from the later work.

to this survey of the condition of textile manufacture at that time a still briefer one of another industry very closely allied, wherein the different parts played by the three systems of labour already mentioned may be further compared and traced, and some of their essential qualities exemplified. It is not known by whom the art of knitting hosiery was discovered; but knitting itself is a process extremely ancient, as old at least as: older perhaps than: weaving. Beckman ("History of Inventions," Vol. II., p. 360)[1] quotes a distinguished French writer Savary (Dict. de Commerce, Copenh. 1759, Fol. 1, pp. 388, 576), who "hazarded the conjecture" that this art was a Scottish invention; "because the French stocking knitters, when they became so numerous as to form a guild, made choice of St. Fiacre, a native of Scotland, to be their patron;" and further conjectures that this highly respectable person was a son of a Scotch king who flourished in the seventh century. What we know for certain is that stockings were not known —in England at all events—before the time of Henry VIII.,[2] and that the great invention of the stocking frame (or loom) was made during that of Elizabeth by an Englishman, William Lee, a native of Nottinghamshire, and a graduate of St. John's College, Cambridge. Meeting with but little encouragement at home he carried the invention to France, where he died in obscurity. It returned here after his death, and (having undergone improvement) was extensively adopted, and a Frame Work Knitters' Society of London, was eventually incorporated by charter under Charles

[1] "History of Inventions, Discoveries, and Origins," by John Beckman, Vol. II., pp. 355-76 (G. Bell & Sons, 1880).

[2] Coverings for the leg were previously cut out of cloth or leather, or some like material.

II. "Six years afterwards the number of stocking frames in England amounted to 700, employing 1,200 workmen, three-fifths of whom made silk stockings, and the others worsted, for cotton was not then ranked among English manufactures; and by 1714 the number had increased to 8,000 or 9,000.[1] We have here then a typical manufacture, commencing just at the commencement of the Industrial Revolution, developing regularly with it, most intimately connected, as we shall find, with the history of the modern factory system, and yet not necessarily belonging to it. The story of that development is told in a comprehensive and very interesting manner by Mr. Felkin.[2] At this time, he says, "the manufactures of this country were still carried on at the homes of the workpeople and in general on a very limited scale; the bulk of society relied for the supply of necessaries, and even of things convenient, upon the labour of their own hands in their various crafts, and to getting what they needed by interchange with their neighbours." But, owing partly to "the political freedom and security enjoyed during the previous half century," partly to "the greater expansion of mind, and the direction of its powers to useful purposes amongst the middle class," and greatly to "new sources of supply of cotton-wool then only recently introduced into our raw materials for clothing . . . symptoms of a desire to emerge from the small scale on which all productions beyond those necessary for food were cultivated, were early manifested." One prominent way in which the desire thus philosophically traced to its source was

[1] *Idem*, p. 275. Compare chap. i., p. 21.

[2] "History of the Machine Wrought Hosiery and Lace Manufacturers," by William Felkin, F.L.S., F.S.S. (Longmans, 1867).

shown was in the direction of inventions calculated to produce commodities more rapidly and cheaply, and at length (in 1759) Mr. Jebediah Strutt patented an improvement on Lee's stocking loom, greater than any that had yet been made, the fertile parent of more inventions to follow, and of much social and industrial change. This was the "Derby Rib Frame," the principle of which had been suggested to him by his brother-in-law William Woollet of Derby. By means of this implement the production of hosiery was vastly increased, and the article itself much cheapened. A great demand for suitable yarns ensued, producers were everywhere put upon their mettle, and new materials of manufacture sought on all sides. A particularly likely one was found in that same cotton-wool, hitherto but little used in England; and through this narrow channel was the first really great impetus given to its consumption in modern times, and the most important of all opportunities offered for the development of the modern factory system.

FRAME RENTS.

But there had meanwhile "crept into this industry" a system of letting out machines at a "rent," and giving out work to people in their own homes to be done on them, the owner or employer being a capitalist who obtained his return from the finished product—the same principle in short so indignantly denounced in the statute of Philip and Mary touching weavers, and bracketed there with the evils of factory labour."[1] "In 1750 there were fifty manufacturers, employers of 1,200 frames, called *putters out* in Nottingham alone, all trading directly with London"; and about 1,800 frames were similarly

[1] Quoted at p. 44.

employed in Leicestershire. At the same time the hand makers of knitted hosiery were suffering a proportionate decrease of trade. The stocking manufacture was thus going through a transformation similar to that which has been described as occurring generally in agriculture and manufacture, at the period of the Industrial Revolution; which had already befallen the woollen manufacture; and which befell thereafter the lace-making, net-making, and many cognate ones. It was passing out of the hands of the individual worker into that of the capitalist; was losing the character of an occupation and taking up that of operative labour. But it was not the factory system yet. The labour employed was isolated, not congregated, and was subject to no exterior supervision; nor was the motive power supplied (with the machinery) by the capitalist. It required that particular demand for cotton hosiery that presently arose, and the celebrated partnership between Strutt and Arkwright which presently sprang out of it, to bring this great consummation about, as the sequel we are now to enter on will show.

FIRST MODERN FACTORIES.

The silk mill built by the brothers Lombe at Derby was the first English factory in the modern sense.[1] It was the first, that is, where the motive power was supplied from outside, where operations of manufacture hitherto performed by human fingers were performed by inanimate machinery thus set in motion, and where the workpeople were employed exclusively for wages. The machinery itself and the manner in

[1] For a fuller account of this celebrated factory, and of all the strange circumstances that preceded and accompanied its erection, see "Introduction to a History of the Factory System," pp. 357-365.

which it was moved are described by Anderson ("History of Commerce," Vol. III., p. 91). The building, we learn, contained "26,586 wheels, and 97,746 movements, which work 73,726 yards of organzine silk thread every time the water-wheel goes round, being thrice in one minute; and 318,504,960 yards in one day and night," and "One water-wheel gives motion to all the other movements, of which anyone may be stopped separately without obstructing the rest." This was clearly something very different from any edifice in the nature of a factory that had yet been seen in this country—than such great establishments as "Jack of Newbury's" for instance, where the power was all manual—and it is not surprising if inventive minds were quickly directed in consequence to the consideration of supplying mechanisms of a like kind in other branches of labour. Accordingly, we find that as early as 1741, two ingenious men, Messrs. Wyatt and Paul, had set up a cotton mill on a small scale in Birmingham, worked by animal power; and another, owned by Mr. Cave, the proprietor of the *Gentleman's Magazine*, was started shortly afterwards on a larger scale at Northampton. This latter was a water-mill. The first was soon closed and Mr. Cave's venture failed; likewise (in 1764). Meanwhile John Kay, a native of Bury, had taken out patents (1730) for improved methods of spinning and carding worsted: inventions which are believed by some to have been early put in operation on a great scale, and to have been in fact the machinery moved by water described in Dr. Dyer's poem of "The Fleece"[1]—though this could scarcely be as

[1] "The Fleece," by John Dyer, LL.B. See "Introduction to a History of the Factory System," pp. 369, 374.

Dyer himself distinctly mentions Paul as the inventor.[1] "The Fleece" was published, however, not later than 1757, so it is clear at all events that efforts in imitation of the Derby silk mill had by that time been made in both the woollen and cotton industries,[2] and therefore in connection already with three out of the four principal fibres of manufacture.

The progress thenceforth was rapid. In 1755 we read of a silk mill on an unusually large scale being in process of erection at Congleton in Cheshire; no less a person than James Brindley being employed in fitting it up;[3] and others were then, or about then, in operation at such important centres as Derby, Stockport, and Sheffield. At the same time small wool-spinning mills began to be erected n various places. The application of factory machinery to flax-spinning came later; not till 1787: when John Kendrew (optician) and Thomas Porthouse (clockmaker), both of Darlington, procured a patent for a "mill or machine upon new principles," and . . . . "fitted up their machines in a small building called the Low Mill, situated on the river Skerne;"[4] while three years earlier (namely, in 1784) the first worsted factory is stated by Mr. James ("History of the Worsted Manufacture," p. 327) to have been erected by Thomas Edmondson, at Dolphin Holme near Lancaster.

[1] Bischoff's "Woollen Manufactures," Vol. I., p. 169.

[2] It is a curious circumstance in connection with the establishment made famous by Dyer that it seems to have been, says Bischoff, "raised for a parish workhouse" (p. 167); and in a similar way it is stated by Mr. Espinasse, "Lancashire Worthies," p. 313, that several of Kay's inventions "were lost to the world by the riotous conduct of the operatives, and consigned to the workhouses of Leeds and Bristol." There is material here not only for reflection, but also one would think for further investigation.

[3] Smiles' "Lives of the Engineers," Vol. I., p. 144.

[4] "The Linen Trade, Ancient and Modern," by A. J. Warden, p. 690 (Longmans, 1864).

But long before this Arkwright had come to the front. In 1769 he took out patents for his first cotton-spinning machinery, which the year before he "had mounted in a small factory at Nottingham, driven by horse-power," [1] and the year after at another at Wirksworth in Derbyshire, driven by water. From the appearance of this remarkable man upon the scene progress was uninterrupted. He was indefatigable, not only in his attempts to perfect the new machinery, and apply it to factory labour, but also in inducing capitalists in all directions to adopt it. Assisted at first in these endeavours by the Messrs. Wright, bankers of Nottingham, he was introduced by them afterwards to Messrs. Need and Strutt, hosiers of Derby: an introduction which had momentous consequences. In 1770 those gentlemen entered into partnership with him, and the next year they erected together their first factory, This was also a water-mill. From the circumstance of its being so, Arkwright's machinery received the name of "the water-frame," and his yarn of "water-twist," terms which are still in use. Four years afterwards (the experiment having proved successful) "the first of four splendid mills" was erected at Belper on the Derwent; from which epoch the principle of modern factory industry must be considered as actually established. The time has come therefore to consider its peculiarities at this epoch more closely, and in the first instance from the purely mechanical side.

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[1] This is described by a local writer as "the first cotton mill erected in the world," which of course it was not; see "A Handbook of Derbyshire, Nottinghamshire, &c.," by one White, p. 66. Compare "Lancashire Worthies," p. 390.

MACHINE INDUSTRY.

The most obvious characteristic of a factory is that it is a building, or definite area, within which a number of labourers are employed in manufacture. But manufacture itself, says Marx,[1] may be divided under two categories, that in which the manufactured article "results from the mere mechanical fitting together of partial products made independently," and where it "owes its completed shape to a series of connected processes and manipulations." The former of these is still often of the handicraft kind; the latter is that in which machinery is called upon to play its most significant and splendid part. Machinery and tools play again different parts in manufacture. A machine, says a recent writer,[2] "is a combination of resistent bodies whose relative motions are completely constrained, and by means of which the natural energies at our disposal may be transformed into any special form of work." Now a tool is far from being this; nor will any number of tools combined become it unless this relative constraint is placed upon them, when, if they fulfil the other requirements, they will do so. More popularly expressed, the tool is the thing wielded, but machinery is the wielder. A shuttle or a flail, for example, is a tool when its operations are directed by the human hand, but when it is part of a power-loom or a steam-thresher it is then a portion of the machine, and is wielded by it.[3] We have thus three

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[1] "Capital," Vol. I., p. 334.

[2] "The Mechanics of Machinery," by Alex. B. M. Kennedy, p. 2 (Macmillan & Co., 1886).

[3] One of the most perfect instances of an automatic machine is a clock, which is not a mere tool for measuring time, like a sun-dial, but itself measures it once its works are set going.

classes of possible mechanical operations in production: those in which tools are employed in human hands (from the simplest upwards), those in which these tools are fitted into machines, still moved by human power;[1] and those in which these machines are no longer set in motion by human power at all but by some other exterior impulse. We have also two forms of manufacture; that in a necessarily and that in a not necessarily connected series. The goal of the modern factory system (on the mechanical side) is reached when the machinery, no longer moved directly by human power, is applied to the latter kind of manufacture, within a building erected for the purpose.

Now, this type of industry is new in the world. In all previous modes of labour (including the earlier factory systems) all the processes were performed by means of manufacture proper; either, that is, by the "fitting together (by human hands) of partial products made independently," or by the conducting them through "a series of connected processes and manipulations" with or without the aid of more or less simple machines and tools. In the present instance it is the processes themselves that are performed by the machines, and the human hands that only assist them. It is machine-industry; not industry merely aided by machinery.[2] A weaving establishment of 200, 2,000, or 5,000 years

[1] As in the hand-loom and stocking-frame.

[2] The whole of this difficult subject is treated in a profound and comprehensive manner by Marx; "Capital," Part IV., chap. 15. See also, "Philosophy of Manufactures," by Andrew Ure, M.D., Book I., (Bohn, 3rd edition, 1861), and "Economy of Machinery and Manufactures," by Charles Babbage, *passim*, (Murrey, 4th edition, 1846). It is but fair to add that these great authorities do not all agree. The conclusions adopted in the text must be accepted as mainly the author's own.

ago (say in England, Greece, or Egypt) would equally well afford an example of the first type, and the same general description of what occurred be fairly applicable. The yarn, spun independently with a simple tool—a distaff,—or a simple implement—a spinning-wheel,—is fitted to the loom as warp and weft, and woven in that more complicated implement[1] into a web. But it is not woven by it. The shuttle is passed back and forward or in and out by hand. Adam Smith's celebrated description of pin-making as practised in his day furnishes a good illustration of the second category. "One man draws out the wire; another straights it; a third cuts it; a fourth points it; a fifth grinds it at the top for receiving the head; to make the head requires two or three distinct operations; to put it on is a peculiar business; to whiten the pin is another; it is even a trade by itself to put them into the paper; and the important business of making a pin is, in this manner, divided into about eighteen distinct operations, which, in some manufactories are all performed by distinct hands." Here the finished product is the result of a "series of connected processes and manipulations," all manual, and directed under a common superintendence to a definite end. But compare now these proceedings with the same or similar ones all performed by machinery; or rather let us return to textile industry for the comparison. The warp and weft both spun *by* not merely *with* machinery, are by machinery wound on the shuttle and the beam, and, being conducted to a proper place, are then again by a machine wrought into the web. The "connected processes" are still there, but they are no longer "manipula-

[1] It may be well to recall here the derivation of the word loom: *i.e.*, from Anglo-Saxon *loma*, literally a utensil (Draper's Dictionary, p. 209).

tions." Nay, if this machine does its work badly and the yarn breaks, it is not the weaver who detects the fault, but the machine that informs *him*. By an ingenious contrivance[1] a bell is rung, the loom stops, and all that is left for human faculties to perform is the commonplace operation of tying the broken ends together. Is this machinery aiding human labour, or human labour aiding machinery? It is clearly the latter; it is *machine industry;* a different thing from anything that had yet been known, one of the special characteristics of modern industry, and, among other forms of it, of the modern factory system.

The full significance of the change thus introduced in labour is not yet understood, nor can any adequate exposition of it be attempted here. It is clearly a much larger question than is involved in the rise or fall of any particular factory system, for it obviously affects forms of labour lying altogether outside it. But the difference made in the position of the factory worker is fundamental. In earlier factories the human element was the supreme one; under the modern system that supremacy belongs to the machine.

We proceed to examine some of the primary stages of this development as they actually occurred.

SPINNING MACHINERY.

The great success of Arkwright (in spite of every difficulty) was the cause of a very rapid development in spinning machinery, and the circumstance that this machinery was first applied to cotton manufacture helps to explain how it was principally in connection with that fibre that the earliest triumphs of the modern factory

[1] The "weft-fork," invented by Buller of Accrington. See chap. viii., p. 337.

system were won. We learn, accordingly, that as early as 1780 there were twenty water frame factories engaged in spinning cotton, Arkwright's property or the property of persons who had paid him a consideration for using it, and in 1790 (after the repeal of his patent) "there were 150 in England and Wales alone."[1] But in the meanwhile another implement called the "Jenny," the invention of one John Hargreaves, had been coming into use, which was equally applicable to spinning wool. This had been designed for, and was originally, a handicraft implement, and continued to be so used for several years after the secret of construction became generally known, thus affording an instance of spinning by machinery which was not machine spinning, even as the hand-loom long afforded an instance of weaving by machinery but not of machine weaving. Nevertheless it was ultimately fated, even more perhaps than that which Arkwright perfected[2] (but more properly in union with it), to be instrumental in introducing the era of machine industry, and at the date last named (1790) power-driven factories were being built for its accommodation: in which too the wool or cotton was prepared by other newly-invented machines, and by means of all of which weft, "better in quality and lower in price than that spun on the smaller jennies in the houses of the weavers," was produced.[3] Another machine called "the mule" soon

[1] "Compendious History of the Cotton Manufacture," p. 31.

[2] It is generally allowed now that Arkwright was not the actual inventor of the spinning machines that he afterwards used to such good account. He was, however, undoubtedly a most ingenious as well as a most energetic man, and suggested many improvements in both these and others.

[3] Guest, p. 31.

followed suitable either for hand or power, and applied at first exclusively in the former way, though it soon became fitted to factories. This one combined in a large measure the advantages of the other two, and became in time perhaps the most perfect example ever known of the substitution of machinery for human touch. It was the invention of Samuel Crompton of Bolton. In it the mechanical appliances for spinning were brought to the highest degree of excellence; and from the date of its general adoption the great cardinal inventions in that direction may be said to have reached a limit.

The position brought thus about was very exceptional. One half the process of textile manufacture was manual and the other half machine, and the machine parts naturally far outstripped that which was only handicraft. A transitional time in the history of the factory system hereby supervened, a time full of interest and of striking features in itself, but notable also as having to a great extent overshadowed the industrial periods by which it was preceded. When former conditions of our textile industry are spoken about it is commonly only this comparatively brief period that is remembered, while the energetic epoch of the domestic system, and the great vistas opened up by the contemplation of all earlier factory systems are ignored.

A TRANSITIONAL TIME.

The transitional time in question extends from the repeal of Arkwright's first patents to the general coming into use of the power-loom and self-acting mule, and the employment of the force of steam as a motor. The boundary is therefore a somewhat uncertain one; for

the self-acting mule and power-loom had both been invented a long time before they *came generally into use*,[1] and steam has not even yet wholly superseded water-power in manufacture. Roughly speaking, it may be said to have nearly coincided with that second half century which elapsed after the patents for Lombe's silk machinery had expired, and the first modern factories were built (say from 1782 to 1832), the period, namely, already indicated as forming the second epoch in the development of the modern factory system (chap. i., p. 2). We have recently given an estimate of the number of factories spinning cotton by water-power within eight years after the first of these dates, from another source we are able now to furnish some further curious and more precise particulars on this head. The source in question is a pamphlet called "An Important Crisis in the Calico and Muslin Manufactory in Great Britain," published in 1788, and cited and accepted as satisfactory by Dr. Aiken and (in respect to this matter) by Mr. Baines.[2] It is estimated there that at the time the author wrote there were in operation:—143 "water mills or machines"; 550 "mule jennies or machines consisting of 90 spindles each"; and 20,070 "hand jennies of 80 spindles each"; and the "water mills or machines" are more particularly distributed thus:—

In Lancashire	41
Derbyshire	22
Nottinghamshire	17
Yorkshire	11
Cheshire	8
Staffordshire	7
Westmoreland...	5

[1] Compare chap. viii.

[2] "Description of the Country round Manchester," p. 179; "History of the Cotton Manufacture," p. 219.

Berkshire	2
Rest of England	6
Flintshire	3
Pembrokeshire	1
Lanarkshire	4
Renfrewshire	4
Perthshire	3
Edinburghshire	2
Rest of Scotland	6
Isle of Man	1
Rest of Kingdom	24
In England	119
Total	143

"These establishments," the author continues, "when in full work, are estimated to give employment to about 26,000 men, 31,000 women, and 53,000 children, in spinning alone; and in all the subsequent stages of the manufacture the number of persons employed is estimated at 133,000 men, 59,000 women, and 48,000 children; making an aggregate of 159,000 men, 90,000 women, and 101,000 children; in all 350,000 persons employed in the cotton manufacture." These are very striking statistics. Our interest in them does not however reside so much in the number either of spindles or persons employed as in the insight the computation gives into the conditions under which the cotton industry was then pursued, typical, though somewhat in advance, we infer, of the conditions common in other branches of textile manufacture at the same time. Weft spinning, we perceive, was still a manual operation; and, whilst now a craft pursued with the aid of admirable machinery, was not yet a machine industry; while warp spinning was decisively becoming so. The machines themselves were set up very variously: sometimes in outhouses, sometimes in dwelling houses, a few in buildings erected for the purpose—that is to say some

in and some not in regular factories. They were tended at first by much the same persons, employed upon much the same terms, as under the domestic system. The production of yarn was greater and more systematic, that was all. The "subsequent stages of the manufacture," —*i.e.* weaving and winding principally—were still all handicraft. We notice, too, the large quantity of child labour availed of, and, as a matter of industrial technology, the use of the words "mill" and "machine" as nearly equivalent terms, whilst the title "factory" in its modern sense has not properly emerged.[1] The outer features of the change we recognise as being of the familiar kind. At first various branches of the manufacture were separate trades; then they approached nearer; then they became combined. At first only rude machines were used; then machinery of an improved kind; then machine industry. The tendency of labour towards increased division and combination was (we observe) constant; and with it the increasing domination of the capitalist. "In the early times of manufacture," says Mr. Gaskell,[2] "the spinner and the weaver were to some extent synonymous—so far indeed that the processes were carried on under the same roof and by the same individuals; the distaff, the wheel, and the loom being all called into requisition by a single family. At a later period, when improvements in machinery progressed rapidly, stimulated as they were by the inability constantly felt to supply the demand for yarn . . . .

[1] In "The Life and Times of Samuel Crompton," by Gilbert J. French (Manchester, Charles Sims, 1862), p. 73, it is stated that in the year 1792 the word "factory" occurs *almost for the first time* in the rate-books of the township. But *almost for the first time* is rather vague. These must have been hand-spinning factories.

[2] "Manufacturing Population of England," p. 43.

a division began to show itself between the weaver and the spinner—the latter throwing aside his wheel and devoting himself to his loom, trusting to external sources for his yarn, from a growing inability to purchase such machinery as would enable him to spin profitably—and the former deserting the loom, and applying his funds to secure the best and most recent contrivances for spinning, knowing as he did that a market was always open to his produce." But more complicated machines were costly, and . . . . . "at the same time monied men began to turn their attention to a branch of trade, the returns from which were very rapid." This "brought a further accession of capital into it, and led to the erection of mills containing a greater or less number of spinning machines propelled by water," which "soon influenced the prosperity of the domestic manufacturer." The factories grew ever larger; power-loom sheds were presently added; and the transitional time, like the domestic, passed away.

SOCIAL CHARACTERISTICS OF THIS PERIOD.

The social characteristics of this epoch require to be glanced at as well as the mechanical if the economical development is to be presented in anything like a complete, or even consecutive, form. The most striking of these was of course the gradual supersession of hand labour by machinery; the result in the economical relation being seen in the eventual degradation of spinners from the position of a self-supporting to that of a wage-earning class, which has hitherto in all cases been the usual accompaniment of that change. The principal agents in this transformation, besides the competition with the new factories, were the inces-

sant and expensive alterations perpetually going on in the machinery used at home. "The man who one year laid out a considerable sum in the purchase of a jenny of the best and most improved make, found himself in the course of the year following so much behindhand that with his utmost industry he could barely turn out a sufficient quantity of yarn to repay him for his present labour, in consequence of alterations which threw the productive power of his machine into the shade."[1] Another social characteristic was the employment of children of very tender years. "I recollect," said George Crompton, eldest son of Samuel Crompton, the inventor of the spinning mule, "that *soon after I was able to walk* I was employed in the cotton manufacture. My mother used to bat the cotton wool on a wire riddle. It was then put into a deep brown mug with a strong ley of soap suds. My mother then tucked up my petticoats about my waist, and put me into the tub to tread upon the cotton at the bottom. When a second riddleful was batted I was lifted out; it was placed in the mug and I again trod it down. This process was continued until the mug became so full that I could no longer safely stand on it, when a chair was placed beside it and I held on by the back";[2] and of Samuel Crompton himself we read, that so early was he put to work, "his little legs became accustomed to the loom almost as soon as they were long enough to touch the treadles."[3] The ordinary conditions too under which this home work was performed were very insanitary. Not only was the machinery in use cumbrous and incon-

[1] "Manufacturing Population of England," p. 59.
[2] French's "Life of Crompton," p. 43.
[3] *Idem*, p. 12.

venient to an extent that can now be scarcely realised; not only was it commonly crowded into apartments never designed and in no way fitted for its reception; but the positions which persons working about it were constantly compelled to assume were of an abnormal, and often even of a dangerous kind. It required moreover a far more concentrated attention than under the old methods; it was more fatiguing, and far less interesting.

But the most characteristic social traits were to be found no doubt in connection with the mills. A few of the very earliest made use of animal power for setting their machinery in motion, and were built in towns; a very few tried wind;[1] but the great majority (following the example of the already established silk and the long-established corn mills) availed themselves from the outset of the power to be obtained from running or falling water. A consequence was that the banks of rivers and mountain-streams were the sites all but universally selected for the first factories.[2] Upon these then, often in beautiful and secluded valleys, the uncongenial structure rose, and ever in naked and unredeemed ugliness. It is a most significant characteristic of the establishment of the modern factory system among us that it was accompanied by a complete absence of æsthetic feeling, that it seems never to have occurred to the factory master of that day that his place of work could be other than a bare, blank, brutalising edifice, devoid alike of comfort and of the faintest effort at adornment. In foreign coun-

[1] The first factory ever built in Arkwright's native town, Preston, was originally worked by wind. It was occupied by a Mr. Watson. (1777.)

[2] Some of these may still be seen by those who care to look for them. They are generally used now as carpenters' or small machine shops.

tries this has not always been so.[1] On the European continent, and in America, many factories were from the first built with some regard to the picturesque, not less than other of the humanising influences of life, and in some notable instances this continues, in a few in even an increased degree. Ornamental grounds may be seen surrounding the buildings; trim parterres of flowers adjoining the walls; and ivy or other clinging plants spreading themselves over them.[2] But from the early English water-mills; with all the advantage of charming scenery and healthful surroundings; the idea of ornament appears to have been as rigidly excluded as we shall hereafter find considerations of decency and morality to have too often been. The consequences were probably more far-reaching than has ever yet been pointed out.[3] The appreciation, almost the very conception, of beauty as a thing desirable and useful in itself grew faint among the workers there, and the deadness of a thoroughly unspiritualised conception of life and work cast its shadow over their manufacture. How many "Technical Education Acts," and such like modern contrivances, may not now be necessary ere we can hope to revive any part of what was thus so ruthlessly sacrificed.

The next characteristic that strikes us is in relation to the legal status of the workers at these places, which

[1] Nor is it so now with some of the best factories here; as Sir Titus Salt's at Saltaire; Messrs. Coats' at Paisley; Messrs. Richardson's at Bessbrook, to give but one example for each division of the United Kingdom.

[2] In Germany and Switzerland the most casual observer must notice this difference, while in some of the factories of New England the contrast is even more striking.

[3] It is an extremely singular thing that this circumstance has not received more (it seems to have received no) consideration in view of outgrowing inferiority in technique and design as compared with other countries.

was very exceptional. Operatives had often to be brought to them from great distances, and at considerable expense, and that this outlay might the more certainly be recouped it was usual to bind them under a system of apprenticeship to serve for a term of years. The moral results of this practice were sometimes very shocking. Removed from the constraint of publicity, and to a considerable extent even of the common law, the masters often treated those helpless people with horrible inhumanity. It will be our painful duty to give in a subsequent chapter[1] only too many and too authentic details on this head as regards the workers themselves; we shall venture a few words here as to its deteriorating effect on the employers likewise. Most of the successful masters of that time (Mr. Gaskell tells us)[2] "were men who had their origin in the ranks of mere operatives, or who sprung from the extinct class of yeomen" . . . . . "few who entered the trade rich were successful."[3] "They were men of very limited general information—men who saw and knew little of anything beyond the demand for their twist or cloth, and the speediest and best modes for their production. They were, however, from their acquired station, men who exercised very considerable influence upon the hordes of workmen who became dependent on them, and they were often possessed of good business capacity." . . . . . "Many of these might be found, after a night spent in debauchery and licentiousness, sobered down by an hour or two of rest, and by the ringing of the factory bell, going through the business of the day with

[1] Chap. vii.
[2] "Manufacturing Population," &c., p. 52.
[3] *Idem*, p. 45.

untiring activity and unerring rectitude—surrounded too, as they were, by their companions, alike busily engaged under their inspection—again to plunge, at the expiration of the hours of labour, into the same vortex of inebriation and riot."[1] The immorality amongst their workpeople, which they not only connived at but even participated in, is (according to the same authority) shocking to contemplate. "Houses were established in some localities by parties of young men purposely for the prosecution of their illicit pleasures, and to which their victims repaired—nothing loth it is true—to share the disgraceful orgies of their paramours."[2] The contagion reacted on those who spread the poison and surely brought its own revenge. "The demand for hands necessarily led to the employment of all the male relatives of the master manufacturers at a very early age. His own sons were vested with considerable authority when mere children; —taken from school to superintend certain portions of the mills, and liberally supplied with money. . . . . Numbers of these infatuated youths reaped their reward early, and were cut off on the very threshold of manhood by a career of unbridled indulgence; others had a more prolonged existence, a sort of life in death, and sunk gradually into the grave, borne down by slow and lingering consumption." It is not pretended of course that all the factory masters of that period were of the kind here portrayed; we know, on the contrary, that there were some extremely worthy and high-minded men

[1] P. 55.

[2] P. 64. In Mr. Smith's "History of Longridge," p. 33 (Preston, 1888), there is some account of an early cotton mill in a remote Lancashire valley which was called by the country people "Hell's Gates" on account of similar doings there. This was about 1787.

among them. But there is an unhappy consensus of opinion that points to the above as the characteristic type, and there is no lack of evidence to the same end.[1] Nor can they be absolved by any circumstances of the time or the occasion from the responsibility which the bringing together numbers of helpless persons casts on everyone who does so to deal well and wisely with them, for that is a duty of every time and place. It is not enough to say, for instance, that these persons were free agents, for they were not; nor that they were willing victims, for that is not the question; nor that the evils which arose were natural and inevitable incidents of the situation, for that is not the case either, as the subsequent history of the operative population has shown. Wherever large numbers of people are brought together under new conditions, new dangers are of course created, but that is a reason for extra care, not utter carelessness. Moreover, the present charge against these masters is not that they were only careless of the health and morals of those in their employment but actively and shamefully neglected the one, and used their opportunities in a base and criminal manner as regards the other, and from this charge they have never yet been satisfactorily cleared.

[1] Full details are to be found in the reports of the early parliamentary Committees on factory legislation.

CHAPTER III.

ESTABLISHMENT OF THE MODERN FACTORY SYSTEM.

Hand-Loom Weaving—The Power-Loom—The New Motor—Ancient Iron Industry—Employment of Coal—The Steam-Engine—James Watt—Metal Manufacture—Manufacture of Machinery—Pottery—Glass—Paper—The Steam-Engine in Textile Manufacture—Bleaching—Dyeing—Printing—Miscellaneous Industries.

HAND-LOOM WEAVING.

HITHERTO, whilst tracing the development of the modern factory system, we have confined our remarks to textile manufacture, and have followed principally the fortunes of the spinners, for it was to spinning that its earlier triumphs chiefly appertained. It remains now, before proceeding to other matter, to say something of a class of textile workers whose turn was next to come, whose fate has excited even greater commiseration, and whose agony was more prolonged. The story of the Industrial Revolution as it affected weaving is told with much fulness, and in union with many interesting facts, in Mr. Gaskell's sketch of "The Manufacturing Population of England," a work from which we have already quoted somewhat freely. We propose to condense from it once again for reproduction a few passages dealing with this portion of our subject too, for it is impossible to tell the story better.

Previous to the invention of the new spinning machines it had taken (we learn) "six or seven

spinners to fully supply a loom," and "one half the weaver's time had generally to be spent in waiting for work;" but these conditions were completely reversed afterwards. The weaver was fully, and often more than fully occupied. One of the first results of this change was the gradual abandonment of farming as an accessory industry to manufacture; for labour when employed solely on the loom was "more profitable and more immediate in its return"; and this separation of agricultural and manufacturing employments was injurious to the weavers of the combined type of labour, whilst those who had been exclusively weavers were proportionally benefited. "The great body of hand-loom weavers had at all periods been divided by a well defined line of demarcation into two very distinct classes. This division arose from the circumstance of their being landowners, or being entirely dependent upon weaving for their support. It has been seen that the weaver who was also a small farmer lost something by the increase in the demand for cloth, while, from the same cause the simple weaver, who had all along depended upon the demand, gained a step in advance, and now found himself on an equality with those who had hitherto been his superiors." The new method was for mill masters to give out machine-spun yarn among the numerous hand-loom weaving villages that rapidly sprung up around their factories, and to receive back finished cloth when and how they could; or the weaving was done in "dandy shops," places which contained eight or ten—perhaps twenty—looms, and were farmed by one or more speculators. By no conceivable effort of industry, and through no displacement of labour capable of spontaneously occurring

in a very limited time, was it possible for this mode of production to keep pace with the other, and the weaver thus remained, notwithstanding all recent accessions to his ranks, master of the situation. "One of the happiest sights in Lancashire life at this time," writes the author of "The Marcroft Family,"[1] himself a workman, "was the home of a family of silk weavers." "There could be heard the merry song, to the tune of the clacking shuttles and the bumping of the laths; the cottage surrounded with a garden filled with flowers, and situated in the midst of green fields where the lark sung, and the throstles whistled their morning's adoration to the rising sun. The weaving thus carried on at home, where several persons of the same family and apprentices were employed, made them prosperous small manufacturers and a proud lot of people." This was about 1800. "The trade of muslin weaving"—says a Bolton manufacturer of the same period[2]—"was that of a gentleman." The weavers "brought home their work in top boots and ruffled shirts, they had a cane, and took a coach in some instances, and appeared as well as military officers of the first degree." They used to walk about the streets (writes Mr. French)[3] "with a five-pound Bank of England note spread out under their hatbands; they would smoke none but long 'churchwarden' pipes, and objected to the intrusion of any other handicraftsmen into the particular rooms in the public-houses which they frequented." This abnormal prosperity preceded by but a short interval,

[1] "The Marcroft Family," by William Marcroft, Senior (Wrigley and Sons, Rochdale).

[2] See evidence of Mr. John Makin in "Report from Select Committee on Hand-Loom Weavers' Petitions," 1834, p. 418.

[3] "Life of Crompton," p. 73.

however, their downfall. Two portentous events were even then preparing it, and the vicissitudes through which they had already passed were yet to be completed by an experience of deep and abiding misery. Those two great events were the invention of the power-loom, and the application of steam-power to nearly all processes of manufacture.

THE POWER-LOOM.

The power-loom was the invention of a clergyman, the Rev. Edmund Cartwright. The circumstances attending it are to be found described in many places—amongst others in the current edition of the "Encyclopædia Britannica" in the inventor's own words. The endeavour to construct an automatic loom had been several times made before. "In the 17th century," writes Marx,[1] "nearly all Europe experienced revolts of the workpeople against the ribbon loom; a machine for weaving ribbons and trimmings, called in Germany Bandmühle, Schnurmühle, and Mühlenstuhl;" and there had certainly been a previous and similar one in existence, for "the Abbé Lancellotti, in a work that appeared in Venice in 1636, but which (says Marx) was written in 1579," tells of a certain Anthony Müller of Dantzig, that he "saw about, 50 years ago (namely in the very beginning of the sixteenth century), in that town, a very ingenious machine which weaves 4 to 6 pieces. . . . . but the mayor being apprehensive that this invention might throw a large number of workmen on the streets, caused the inventor to be secretly strangled or drowned." "This machine"—he adds—"was in fact the precursor of the mule and

[1] "Capital," Vol. II., chap. xv., sec. 5.

the power-loom, and of the industrial revolution of the 18th century." "It enabled a totally inexperienced boy to set the whole loom, with all its shuttles, in motion by simply moving a rod backwards and forwards, and in its improved form produced from 40 to 50 pieces at once."[1] It was sometimes driven by water-power.[2] Another loom, also moved by water-power, was contrived by M. de Gennes much about the same time, and is described in the Philosophical Transactions of the Royal Society for 1678 (Vol. II., p. 439 of Dr. Hutton's Abridgment) as "a new engine to make linen cloth without the help of an artificer";[3] and M. Vaucanson, a Frenchman, invented a better known one about a century later. None of these inventions, it is clear, had come to much. Nor indeed was Cartwright's at first more successful. In 1787 he took out his final patent for it, and immediately afterwards entered regularly into business as a manufacturer at Doncaster; but the enterprise was a costly failure. Other attempts followed. "About 1790 Messrs. Grimshaw, of Gorton, under a licence from Dr. Cartwright, erected a weaving factory at Knott Mill, Manchester, and attempted to improve the power-loom at great cost to themselves," but they failed, and the factory being burnt down shortly after, abandoned the undertaking altogether. In 1793 Mr. Kinloch of Glasgow, "with the assistance of an operative joiner and a clockmaker," set up what is

[1] The above is by far the best account of this mysterious machine that I have met with anywhere. Beckman ("History of Inventions," Vol. II., p. 527) has indeed an article upon it, in which it is described as "a loom which of itself wove all kinds of lace, tape, &c.," but the account is unsatisfactory, and in few other works which treat of industry is it even mentioned.

[2] Beckman, Vol. II., p. 527, and note p. 528.

[3] Baines, p. 228.

described as the "first power-loom ever made,"[1] but the attempt was not persevered with at that time. He afterwards removed to Lancashire, where several of these looms were worked by him in the West Houghton district with more success, but destroyed in the riots of 1813. In 1794 a power-loom was invented by Mr. Bell of Glasgow, which was likewise abandoned. On the 6th of June 1796 Mr. Robert Miller, also of Glasgow, took out a patent for one, which a spirited neighbour, Mr. John Monteith, "adopted in 1801 and fitted up a mill at Pollockshaws with two hundred looms," but it was "several years before the business was made to answer."[2] At length some definite progress was made. In 1803 and 1804 respectively, Messrs. Radcliffe and Ross of Stockport, took out, in the name of their assistant Thomas Johnson, four patents for improvements in the weaving process, and Mr. Horrocks, a manufacturer of the same town, others in 1803, 1805, and 1813 respectively, for improvements in the loom itself, the common result of all of which was to establish at length the value of Cartwright's invention and start it on a career of unexampled prosperity. At the last-named date (1813) there were not more than one hundred power-looms in use. In 1820 there were already over fourteen,—and in 1829 nearly sixty,—*thousand!*[3] In a few years more (namely in 1833) Mr. Baines estimated 85,000 in England, 15,000 in Scotland, and some hundreds in Ireland.[4]

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[1] Hardwick's "History of Preston," p. 373 (Preston; 1857).
[2] Baines' "History of the Cotton Manufacture," p. 231.
[3] *Idem*, pp. 235-6.
[4] P. 237

THE NEW MOTOR.

Meanwhile a new agent in human progress had made its appearance. The latent forces liberated by combustion, and hitherto throughout mankind's history suffered to go to waste, were, after a period of lengthened experiment and profound meditation, brought under control, and applied to purposes of industry. Steam entered the arena to compete with wind and water and animal power as a prime motor in production. The story of the successive stages by which it did so belongs to another manufacture than those hitherto dealt with, and will now be entered on. It was in the great metal industries of the country, and especially in the manufacture of iron, that its vast possibilities were first shown. The ultimate effects of that change it is impossible of course to estimate; the immediate effects were extraordinary in themselves, tremendous in their consequences, and bewildering in their rapidity. It may be true indeed, as Mr. Baines asserts it is,[1] that "writers who have not remarked the wonderful spring which had been given to the cotton manufacture" before the steam-engine was applied to spinning machinery, have "laid too great stress upon this engine, as if it had almost created the manufacture:" which of course is not the case, and the purport of the last chapter will have been greatly missed if so much has not been made plain, not only in regard to that fibre, but to other staples and other industries. But, on the other hand, this writer seems to attribute too large a part to mere machinery in bringing about the modern factory system. It was no doubt the improvements in

[1] "Cotton Manufacture," p. 227.

the manual machines that led the way; but it was the application to them, and others, of ultra-human motive power which brought about the completed result. He himself admits as much afterwards, when, in eloquent terms, he describes the steam-engine as "standing in the same relation to the spinning machines that the heart does to the arms, hands, and fingers in the human frame: the latter perform every task of dexterity and labour; the former supplies them with all their vital energy." Without this new motor, then, the *heart* of the present system would be absent.

In point of fact, as several other writers have noticed, it is doubtful if the modern factory system could have assumed its full development at this time at all without the assistance *of some such an agent.* The power of water is too uncertain, intermittent, and (in this country) limited in supply; there was no other efficient motor then available; and great aggregations of free men might not always have been willing to work with the regularity necessary to that mode of production, easily enough attainable under the old method of slave labour, or even in part of apprenticeship. Already we have seen something of the airs the hand-loom weavers gave themselves when the production of yarn was in excess of the number and capacity of the old-fashioned looms to weave, and the command of the market was on their side. Nor were these, Mr. Gaskell assures us,[1] "the only unpleasantnesses" (to the factory masters) connected with this epoch, but far otherwise. "They were

[1] "Manufacturing Population," &c., p. 47.

subjected periodically to severe immediate losses, and to the chance of still greater ulterior ones, by the refractory spirit of their hands, who timed their opportunity when the markets were particularly pressing to urge their claims . . . and it is quite certain that a crisis was rapidly approaching which would have checked, if not annihilated, the progress of manufactures, when steam, and its application to machinery, at once turned the current against the men." The motive power, that is, as well as the machinery, came now to be at the disposal of the capitalist, and the latest form of the modern factory system known to us as yet emerged from this combination.

ANCIENT IRON INDUSTRY.

The iron manufacture of modern times is so important a factory industry, and its history is so closely connected with the invention and development of the steam-engine, that it will be well to consider these subjects together. Originally, smelting operations were carried on in the immediate vicinities of mines; the processes of raising and purifying the ore being regarded as necessarily mingled; but subsequently, the practice prevailed of erecting furnaces on the tops of mountains, for the sake of the draught; and still later, in valleys, where a stream of water might supply a motive power. In England it would appear as if the fuel had been always the prime consideration, both in the more primitive stage of manufacture when it was wood, and at present when it is all but invariably coal.[1] "Until the middle of the

[1] There is only one firm left in the United Kingdom, I believe, which makes charcoal iron; Messrs. Harrison, Ainslie, & Co., who have two small works in operation in the Lake district.

last century," writes Mr. Jevons,[1] "iron was always made with charcoal, and a woody country was necessarily its seat. Coal, or *cole*, was then the common name for charcoal; pit coal being distinguished as sea-coal. The collier, or *collyer*, was the labourer who cut the timber, stacked it in heaps, *charked* it, and conveyed the coal on pack horses to the iron bloomary and forge, situated in some neighbouring valley, where a stream of water gave motion to the bellows and the tilt hammer." The south of England, and especially the Forest of Dean and the well-timbered Weald of Sussex, was the great seat of our iron manufacture at that time. Of the former, Leland writes[2] that "the ground is fruitful of iron mines and divers forges there to make iron;" and, respecting Sussex as an iron-producing district, we obtain from Camden[3] half a century later, the following still more precise and picturesque details. "Sussex is full of iron mines *everywhere*, for the casting of which there are furnaces up and down the country, and abundance of wood is yearly spent; many streams of water are drawn into one channel, and a great deal of meadow ground is turned into pools, for the driving of mills by the flashes, which, beating with hammers upon the iron, fill the neighbourhood night and day with their noise." Towards the end of the sixteenth century, however, the great consumption of wood by the ironmasters began seriously to alarm the country, and successive Acts of Parliament were passed

[1] "The Coal Question," by W. Stanley Jevons, M.A., p. 276 (Macmillan 1865).

[2] "*Itinerary*" (1538).

[3] "Britannia, or a Chorographical Description of the flourishing Kingdoms of England, Scotland, and Ireland," by William Camden; Vol. II., p. 185 (1608).

limiting their powers of felling timber: in the interests alike of the domestic consumer and the cause of national defence, requiring—it was held—an ample supply of that material for the construction of England's "wooden walls," her proper defence against all foes. The scarcity of fuel thus produced soon told, and in another century this industry fell so low that in 1740 there were only fifty-nine furnaces in all England, whilst in 1788 there were but two![1] "A few years later, and the Sussex Iron Works were blown out altogether. Farnhurst, in western, and Ashburnham, in eastern Sussex, witnessed the total extinction of the manufacture. The din of the hammer was hushed, the glare of the furnace faded, the last blast of the bellows was blown, and the district returned to its original rural solitude."[2] In the Forest of Dean, and throughout the other southern iron-making districts, there was a similar, though not so complete a falling off, and at this time a considerable share of the English iron industry crossed the sea to Ireland, where it had a short period of prosperity.[3] The rest tended to establish itself more in the midland and northern counties, and most often in the immediate neighbourhood of the great coal deposits, already known to exist there.

EMPLOYMENT OF COAL.

Under these circumstances it was but natural that the possibility of smelting iron with some other fuel than wood, and especially with this most convenient and abundant one, should have occurred to many minds;

[1] Compare chap. i., p. 29.

[2] "Industrial Biography," by Samuel Smiles, p. 42 (Murray, 1879).

[3] See "A Comprehensive History of the Iron Trade," by Harry Scrivenor, chap. iii., where interesting details are given (Smith and Elder, 1841). Compare chap. viii., p. 349.

but there was for a long time in England an inveterate prejudice against its use. Coal was considered uncleanly and unsightly; both of which indeed it is; and when first brought to London (in 1273) was even altogether prohibited, while on being employed there some years later (1305) for purposes of industry, "several of the nobility, gentry, and others" complained of it to the king as being a public nuisance, "when he granted a Commission of Inquiry into the same, in consequence of which he issued a severe proclamation against the use of sea coals, under the penalty of fines, etc."[1] Nevertheless, its use did increase, principally "in the cities and towns that lie along the coasts" (Harrison's "Description of Britain, *temp.* 1577"),[2] and for exportation;[3] though also by Elizabeth's reign for small metal operations carried on in a few inland towns as well, as at Sheffield and Birmingham, and in Staffordshire. Somewhat later a domestic use is vouched for by no less a person than Shakespeare, who makes Mrs. Quickly talk quite familiarly of her "sea-coal fire,"[4] and already Harrison "marvels not a little that there is no trade of these into Sussex and Southamptonshire; for want thereof the smiths do work their iron with charcoal." The word had now been spoken; nor was it long before action followed. As happens, however,

[1] "History of Commerce," Vol. I., p. 273.

[2] A new and compendious edition of this valuable work, under the title "Elizabethan England," has been lately published in *The Camelot Series* (Walter Scott, 1890).

[3] Anderson, p. 434.

[4] "Merry Wives of Windsor," act. i., scene iv. But it had been used for domestic purposes even in Saxon times, and is supposed to be referred to in the "Saxon Chronicle" as early as A.D. 852 under the term *graefa*. It was certainly used also by the Romans.

in our earlier industrial annals so often it was by a foreigner that the first definite step was taken. Simon Sturtevant, a German metallurgist, was the earliest person to take out a patent for making iron with pit coal (about 1612). The effort was unsuccessful, and some others, made also by foreigners shortly afterwards, suffered a like fate, and it was happily reserved to an Englishman after all to accomplish this great feat, to Dud Dudley namely, a natural son of Lord Dudley, who in 1621 first satisfactorily performed it. The history of this very interesting personage—with the various ups and downs of his strange career—are to be found narrated in his own book "Metallum Martis" (published in the reign of Charles II.), and more or less in all books dealing with the literature of modern metallurgy. A series of misfortunes of which he was the victim frustrated his best endeavours, and for about half a century more all like attempts were fated to a similar ending, and at length ceased altogether.[1] They were revived in the early part of the 18th century[2] by Abraham Darby, a maker of iron hollow-ware, of Coalbrookdale, Shropshire, who was the first to succeed in making this operation profitable, and who quickly rose to fortune and eminence in consequence. This result was much aided by the powerful machinery employed, and in particular by an unusually large water-wheel. But water was scarce at times; it occasionally failed altogether; and a *fire-engine*, or atmospheric steam-engine, was set up

[1] Scrivenor, p. 55.

[2] There is a difference of opinion both as to the exact time and the exact facts in this case. Scrivenor, "History of the Iron Trade," p. 55, says that pit-coal iron was made in Darby's furnace as early as 1713, but Smiles's "Industrial Biography," p. 84, and appendix ii., refers this achievement to a later date, and even gives the credit of it to one Richard Ford, a manager for this firm. The account in the text is that commonly received.

"to pump back the water from the lower to the upper mill-pond, where its presence in time of drought was needed." "Here," says Mr. Jevons, "is one of those significant instances which teach us the power of coal and the interdependence of the arts. Employed in this engine, as a source of motive power, it enabled coal to be also used in the smelting furnace. And this is typical of the iron trade, as it is of other trades, to the present day; for our iron industry, in all its developments, is as dependent on coal for motive power as for fuel in the furnace."[1] This brings us also to the period when the steam-engine begins to make its appearance as distinctively an agent in manufacturing industry, and a brief retrospect becomes necessary.

THE STEAM-ENGINE.

For, like many other useful agents the immediate utility of which is not, and indeed could not by any prescience short of omniscience, be foreseen, the expansive power of steam had been known long before its application to any industrial purpose was dreamt of. Beckman is even of opinion that its power as a motor was familiar to the ancients, and tells us of Hero of Alexandria (who lived about 120 years before Christ) that he "has left us the description of a machine in which a continued rotatory motion was imparted to an axis by a blast of steam issuing from lateral orifices in arms placed at right angles to it;"[2] in which description the principle of the modern steam-engine seems to be anticipated. At various times during the Middle Ages again, various

[1] "The Coal Question," p. 290.
[2] "History of Inventions," Vol. II., article "Steam-engine."

mysterious contrivances of a somewhat similar kind are referred to, and probably many more existed no notice of which survives. The first thought of employing steam as a power in industry is now generally allowed to have belonged to a French engineer, Solomon de Caus, who flourished in the time of Louis XIII., and visited England in that of our Charles I. In the reign of the latter monarch, and previously, complaint had been made of the difficulty of draining mines, especially tin mines, in this country, and in 1630 the King had granted a patent to one David Ramseye (possibly a disciple of De Caus) to (amongst other things) "raise water from low pitts by fire. . . . . by a new waie never yet in use." What resulted from these patents we do not know; nor from the machines propelled by steam which about the same time (1629) Branca, an Italian philosopher, contrived; but it is certain that in 1663 the Marquis of Worcester described in his book "A Century of Inventions"[1] an apparatus applicable to this and other purposes, unmistakably of the nature of the modern steam-engine, that he actually constructed such a one, and prophesied for it a career of usefulness only falsified in falling far short of the astounding facts. This apparatus was greatly improved by Thomas Savery; whose patent (1698) specified an engine "for raising *water and occasioning motion to all sorts of mill work* by the impellant force of fire;" and to whom

[1] "A Century of the Names and Scantlings of such Inventions as at present I can call to mind to have tried and perfected, which (my former notes being lost) I have, at the instance of a powerful Friend, endeavoured now, in the year 1655, to set them down in such a way as may sufficiently instruct me to put any of them in practice." Arts. 68, 98, 100. Printed by J. Grismond, in the year 1663; and in many editions since.

(according to Beckman) was due "the first actual working steam-engine of which there is any record." But Savery's engine was exorbitantly wasteful of fuel; at a time too when important improvements in just this direction were being made by Denis Papin in France, and were expounded by him before the Royal Society of London in 1699. Those improvements were adopted and much advanced by Thomas Newcomen. In 1705 Newcomen took out with Savery a joint patent for that *atmospheric steam-engine* already noticed as being used by Darby at the Coalbrookdale Iron Works; and it was whilst repairing a model of this, for the use of Professor Anderson of Glasgow University (in 1763), that James Watt of that city came to the resolution to devote himself to perfecting an instrument, some of whose defects he at once perceived, and whose vast capabilities he more than partially foresaw.

JAMES WATT.

Watt was a man of varied attainments; a mathematical instrument maker by trade; and on intimate terms with several of the eminent men of his day. He had constructed a model of a steam-engine before Newcomen's came particularly under his notice, but had not hitherto taken up this subject as an exclusive study, nor with a view to material results. He now devoted to it the utmost energies of his mind from just those points of view. In 1769 he secured his first patent. It was for "methods of lessening the consumption of steam and consequently of fuel in steam-engines"—the great desideratum at that time; and shortly afterwards he formed a partnership with Dr. Roebuck, the original proprietor of the celebrated Carron Iron Works in Scotland. At these works he continued his experiments in secret for several

years, and apparently without much result, for it was not until 1774 (we are expressly told)[1] that he succeeded in producing any engines sufficiently powerful to meet the already rapidly expanding requirements on, and demands for them. In the same year, Roebuck's business affairs becoming embarrassed, he was unable to continue his support to Watt, and in the settlement that ensued disposed of his interest in his patents to a creditor, Mr. Matthew Boulton of the Soho Foundry near Birmingham—an interest appraised, however, at so low a value that it was not even included among his assets.[2] But Watt had in the meantime made the personal acquaintance of Boulton who formed a very high opinion both of him and his invention. A portion of the great works at Birmingham was set apart for experiments on a large scale, and the work prosecuted with ardour. The next year saw these remarkable men enter definitely into partnership, and in the same one Watt procured a renewal of his patent for twenty-five years, making a period of more than thirty in all during which he enjoyed it. "He soon produced many capital engines; which were erected in Staffordshire, Shropshire, and Worcestershire, and a small one at Stratford, near London, but chiefly in Cornwall; and Messrs. Watt and Boulton granted licences to use their engines on securing a third part of the saving in coal compared with an atmospheric engine performing the same work with coals equal in quantity."[3]

[1] Scrivenor's "History of the Iron Trade," p. 91.

[2] "Industrial Biography," p. 140.

[3] Scrivenor, p. 92. As an instance of the cost of these engines, Mr. Scrivenor mentions (quoting from the Edinburgh Encyclopædia, Art. "Steam-engines") that for three large engines at Chacewater Mine in Cornwall the proprietor paid £800 annually, instead of the proportion of saved coal mentioned in the text.

Watt died in 1819; at the advanced age of 84; having lived to witness the complete success of his model, and its rapidly increasing application in very various ways.

METAL MANUFACTURE.

The steam-engine, we have seen, was first designed for and applied to the purpose of draining mines, and previous to those constructed on Newcomen's principle had met with but indifferent success even in that limited sphere of usefulness. It is very difficult to say when and where the first was actually set to work, but as early as 1712 there were certainly two of Newcomen's in operation in the neighbourhood of Wolverhampton; and one in Northumberland at least as early as 1714.[1] The first exported was sent over to Belgium about ten years later, where it was put up by the aid of English mechanics.[2] Its effect upon the development of mining both at home and abroad was immediate and extraordinary, and especially on the development of coal mining. The great obstacle to the getting of the new fuel—the flooding of the coal workings—was by this instrumentality more thoroughly overcome than had been previously deemed possible, and an apparently inexhaustible supply thus rendered immediately available for all purposes of industry.

Scarcely less striking was the sudden and prodigious revolution it wrought in every department of the iron and other metal manufactures. With

[1] According to Dr. Yeats; "Technical History of Commerce," Vol. II., p. 313; (G. Philip & Son, 1887) "the earliest recorded use of a steam-engine for mining purposes was at the Colliery of Griff, near Coventry, about the year 1700."

[2] "Memoire sur l'Introduction des Machines à Vapeur dans la Hainault," quoted in "Coal Question," p. 86.

the single exception of that Sussex one whose rapid rise and fall has just been noted, no metal manufacture on a large scale had been carried on anywhere in Britain since the departure of the Romans. Metal and metal products had either been imported, or they were produced in small quantities on the estates of powerful landed proprietors :—where they were worked up by skilled artificers in their retinues, or by craftsmen in the larger towns under the supervision of the municipal and guild authorities.[1] With the decay of the Sussex industry another mode of production came into use. Iron, imported from abroad, was smelted usually in the neighbourhood of Gloucester, and shipped thence up the Severn into Worcestershire, Shropshire, Staffordshire, and Warwickshire; or to Ireland; while a small quantity was also manufactured in Lancashire, and Yorkshire, and possibly elsewhere. After being converted into bar-iron it was distributed among merchants having warehouses in different parts of the country; and given out again by them in trifling quantities to domestic handicraftsmen, or small masters, in whose hands it received its final form. The system was in fact the domestic system; as in other industries at the time; and it survives to the present day in this one more perhaps than most. But concurrently with the invention of the steam-engine and the more common use of coal, several new manufactures on a large scale had settled in these districts too, and new methods of production been introduced in them. Some considerable metal industries had settled

[1] During the Plantagenet period the mining of tin, copper, and lead was prosecuted with some spirit, but it dropped off afterwards. In the reign of John the tin mines of Cornwall were farmed by Jews.

there indeed even earlier, but they had not come to much. In 1565 Elizabeth granted a patent to two foreigners, Humfrey and Shutz, for making the first brass ever manufactured in this country, and in the same year the art of drawing wire through a mill (instead of the old method of hammering it out by hand) was brought over from abroad.[1] Mills for rolling iron plates were introduced about the same time; and in 1665-70 the celebrated Andrew Yarranton imported from Saxony the manufacture of tin plates,[2] and Richard Foley, almost contemporaneously from Sweden (after a series of surprising adventures),[3] the process of slitting iron bars by machinery. Copper smelting was carried on to some extent at the same time in Staffordshire; that product entering largely, as it still does, into the formation of those compound metals already wrought into great variety of forms in the neighbourhood of Birmingham, buckles, buttons, and the like. These last were the so-called "toy trades." Hutton[4] says of them that they first made a definite settlement here during the reign of Charles II.; and the same author gives a quaint description of the aspect of the adjacent nail-making district at a rather later period, one not very inapplicable even now. "When I first approached Birmingham from Walsall," he writes, "I was surprised at the prodigious number of blacksmiths' shops upon the road, and could not conceive how a country,

[1] Anderson, Vol. II., p. 123.

[2] Yarranton failed in establishing this industry owing to the obstacles which, chiefly through jealousy, were placed in his way, and the first successful works of the kind in England do not date further back than from about 1730.

[3] For an interesting account of these see "Self-Help," by Samuel Smiles, p. 205 (Murray, 1882).

[4] "The History of Birmingham," by William Hutton, F.A.S., p. 105 (Nichols & Son, 1819).

though populous, could support so many people of the same occupation. In some of these shops I observed one or more females stripped of their upper garments, and not overcharged with their lower, wielding the hammer with all the grace of the sex. The beauties of their faces were rather eclipsed by the smut of the anvil, or, in poetical phrase, the tincture of the forge had taken possession of those lips which might have been taken by the kiss. Struck with the novelty I enquired whether the ladies in this country shod horses; but was answered with a smile, 'They are nailors.'"[1]

It will be instructive to compare with the above description another, of the aspects and labour conditions of the cutlery district at the same time, before proceeding with the main narrative, that our survey of metal manufacture may cover something like the ground included in reviewing the textile industries, and the economical influences affecting each alike be again brought clearly into view. Before this epoch, says Dr. Aiken,[2] Sheffield, though it "had been the staple for iron manufactures from the year 1297," discovered in them "more of industry than ingenuity." The workmen "dared not exert their abilities in labour, for fear of being overstocked with goods. Their trade was inconsiderable, confined, and precarious. None presumed to extend their traffic beyond the bounds of this island, and most were content to wait the coming of a casual trader rather than to carry their goods, with much labour and expense, to an uncertain market." But in "1751 the river Don was

[1] "The History of Birmingham," p. 118.

[2] "A Description of the Country from Thirty to Forty Miles round Manchester," p. 547.

made navigable to within three miles of the town, ... a stage waggon was set up, ... master manufacturers began to visit London in search of orders with good success, and several factors established a correspondence with various parts of the Continent, and engaged foreigners as clerks in their compting houses." The proceedings of these *factors* were noteworthy. "The common arrangement between masters and workmen during the early and comparatively unfluctuating periods of the cutlery manufacture was, that the former found shop-room, tools, every description of materials, and, of course, such capital as was necessary to carry on the business, paying the latter for work done generally by the piece. During this state of things almost all dealings in the raw material and finished articles were conducted between the master manufacturer and those who visited the town for the purpose of buying his wares, or with the merchant, to whom consignment was made for exportation. Later years, however, witnessed the springing up of a large and influential class of monied or speculative individuals, who, under the denomination of factors, took advantage of the fluctuation of the markets to collect goods and merchandise at a cheap rate, never purchasing at the regular prices when they could avoid it. These enterprising dealers presently obtained large influence in the foreign markets, and, catching the full spirit of modern competition, they soon distanced the tradesmen of the old school. The latter, indeed, frequently became, through necessity, first satellites, and then victims to the new system."[1] In other words, the

[1] "Manufactures in Metals," Vol II., chap. i. Lardner's Cabinet Cyclopædia.

capitalistic method of production and enlarged competition had begun to supersede more primitive labour arrangements in this manufacture too, and all the characteristic features of the Industrial Revolution to be introduced.

Alongside this domestic system of metal manufacture was also, it must be remembered, an earlier factory system producing on a large scale, in addition of course to the handicraft workers who abounded and to the few establishments for the primary treatment of metals already mentioned. Of such a kind was Adam Smith's immortal pin factory,[1] and an exceptionally brilliant example is furnished by those same works of Boulton's, near Birmingham, ere Watt had yet appeared upon the scene. Of these, still innocent of the steam-engine, a recent writer has given the following very striking account: "Not only was his (Boulton's) the largest hardware manufactory in the world, but it was the most famous. No distinguished foreigner who came to England ever failed to visit it, and many came expressly for the purpose. Its proprietor was in correspondence with all the crowned heads of Europe, who vied with each other for possession of the art treasures turned out from Soho. The most eminent artists were retained there, Flaxman among others. Works in bronzes, silver, enamel, stained glass, tortoise-shell, and precious stones: works in decorated japan-ware, clocks, medals and coins, together with an infinite variety of steel toys . . . . . were among the productions of this renowned establishment at the time when Watt brought into it the great invention whose fame was destined to eclipse all that had gone

[1] Mentioned in chap. ii.

before."[1] Thenceforth, of course, even greater things were possible; but for the actual commencement of the modern system we must go back to Coalbrookdale. There it was that smelting iron with coal had been at length successfully accomplished, and one of the earliest steam-engines set to work.

The advantages attending both these experiments induced the successors of the original Darby to much enlarge their premises, so that about 1770 "the firm had extended its operations far beyond the boundaries of the Dale; they had established foundries at London, Bristol, and Liverpool, and agencies at Newcastle and Truro, for the disposal of steam-engines and other iron machinery."[2] In 1767 they substituted iron for wooden rails on all their tramways; and in 1778 the first iron bridge ever made was cast and erected there. A little later (in 1784) Mr. Richard Reynolds, a distinguished member of the firm, testified before a committee of the House of Commons that at Coalbrookdale "sixteen fire-engines . . . . eight blast furnaces and nine forges" were then in operation, "besides the air furnaces and mills at the foundry; . . . . . and more than twenty miles of iron railways;" a description in which we recognise the most characteristic features of a modern metal factory on something like the great modern scale. In the same year Henry Cort of Gosport took out his second patent "for a new way of rolling and puddling iron" (*i.e.* introduced the *puddling furnace*)—improvements of such importance, says Scrivenor,[3] "that this must be considered the era

[1] "Great Industries of Great Britain," Vol. II., p. 152 (Cassell & Co.).
[2] "Industrial Biography," p. 85.
[3] "History of the Iron Trade," p. 109.

from which we may date the present extensive and flourishing state of the iron trade of this country."

MANUFACTURE OF MACHINERY.

To keep abreast of these great developments of the primary processes of metal work a new advance now became necessary. In textile manufacture it was improved machinery that first called for a new motor; in metal manufacture it was the new motor which rendered necessary improved machinery. The great masses of material requiring to be dealt with now needed not alone wider areas for their reception, and closer and more connected supervision for their completion, they needed likewise an entirely other set of mechanical appliances capable of coping with the much increased possibilities inherent in them. For all modern purposes the old handicraft implements were clearly obsolete. The immediate result of this requirement was the bringing to the front a number of remarkable men, Brindley, Smeaton, Maudsley, Clements, Bramah, Nasmyth, &c., to supply mechanism of a proportionate capacity and nicety for the new motive power to act upon and with, and the ultimate result was the adoption of the modern factory system in the larger tool-making and engineering workshops as well as in metal manufactories proper. "Thus there gradually grew up," says Jevons, "a system of machine tool labour, the substitution of iron hands for human hands, without which the execution of engines and machines in their present perfection and size would be impossible," and this substitution proceeded with the same astonishing rapidity as all other factors in the great industrial change. "When I first entered this city," remarked Sir William Fairbairn in an address to the British

Association at Manchester in 1861, "the whole of the machinery was executed by hand; there were neither planing, slotting, nor shaping machines, and, with the exception of very imperfect lathes and a few drills, the preparatory operations of construction were effected entirely by the hands of the workmen. Now, everything is done by machine tools, with a degree of accuracy which the unaided hand could never accomplish."[1] The transition from manual labour to machine labour and the methods of the modern factory system, had been in fact directed to the manufacture of machinery itself as well as the materials on which machinery is employed.

POTTERY.

Nor were these industries by any means the only ones brought by this time—and in some instances much before—under the sway of the new conditions, though it is with them as typical instances we are naturally the most concerned. A transformation similar in kind had occurred already in several others, and among them in the no less ancient pottery manufacture, all but extinct in England for many ages. Wooden, and even leathern, vessels had been commonly used in this country instead of earthenware up to Tudor times, and thence orward for the next couple of hundred years pewter,[2] as a greatly improved substitute. No fine pottery was then made in Europe. A coarse kind, produced in Holland, was imported in small quantities, and a very superior and expensive kind from China (by way

[1] "Report of the British Association for the Advancement of Science," Manchester Meeting, 1861; President's Address (Murray).

[2] Pewter is a compound of tin and copper in the proportion of about one part of the latter to twenty of the former. There was a Society of "Pewterers" incorporated in the reign of Edward IV. (1474).

of India). Somewhat later, fine pottery began to be made in Italy and France; and a little later still in Germany. From Germany the manufacture crossed over here, and about the middle of the eighteenth century had the good fortune to be taken in hand by Josiah Wedgwood, a Staffordshire artizan. The whole industry was immediately transformed. In 1763 he produced a cream-coloured ware superior both in fineness and durability to the French and Dutch, and made at a less cost, which rapidly superseded them and all other kinds for ordinary use. Within twenty years after there were in his district alone from fifteen to twenty thousand persons engaged in pottery making; besides others in other parts of the country; and within another half-century there were fifty thousand. The manufacture had itself in the meanwhile undergone the usual change. When Dr. Plot published his "Natural History of Staffordshire," (just a century before Wedgwood's time),[1] "it was of the rudest kind, pursued in wretched hovels, and confined to a few isolated potters, who themselves hawked their wares about;"[2] and the work was all handicraft. Presently "small water-mills for grinding the flint" began to be put up; and these increased in number, size, and importance till at length no less a person than Brindley is found erecting one near Tunstall[3] (in 1787); and at about the same time a *windmill* for Mr. John Wedgwood of Burslem.[4] To-day, huge factories, fitted with vast and complicated machinery moved by steam-power and possessed of all

[1] "Natural History of Staffordshire," by Robert Plot (Oxford, 1686).
[2] Lardner's "Cabinet Cyclopædia." *Porcelain and Glass*, p. 13.
[3] "Lives of the Engineers," by Samuel Smiles, Vol I., p. 146.
[4] *Idem*, p. 147.

modern conveniences, have replaced, or are replacing, those crude beginnings, till we can read of one of them that it "covers in extent an area of seven acres, and gives employment to nearly 2,000 persons," while the minutest subdivision of labour is practised in all its numerous departments.[1]

GLASS.

The somewhat cognate manufacture of glass has experienced a somewhat like development to that of pottery.[2] This too was practised, and was perhaps native here from very ancient times, but has only comparatively recently been undertaken on the great scale and in union with the other characteristic features of the modern factory system. It owes its origin as usual to foreigners, namely two Flemings (Anthony Been and John Care) who in 1567 erected premises in London for making window glass,—the manufactory being continued afterwards by their countrymen Brut and Appell.[3] "At that time (writes Mr. Smiles) glass was so precious that when the Duke of Northumberland left Alnwick Castle the steward was accustomed to take out the glazed windows and stow them away till his Grace's return; and even in the middle of the following century glass had not been generally introduced, the royal palaces of Scotland being glazed only in their upper windows, the lower ones being provided with wooden shutters."[4] It was not, however, quite so rare in the south. The new industry made comparatively small progress at first, until recruited by another influx of foreigners; this

[1] "Fortunes made in Business." *The Mintons of Stoke-upon-Trent.* Vol. III., p. 115. (Sampson Low, 1887).

[2] "Introduction to Factory System," pp. 266-8, 280.

[3] "Huguenots in England and Ireland," p. 111.

[4] "Huguenots in England and Ireland," p. 187; copied from Ray's "Itinerary."

time Frenchmen; who crossed over after the revocation of the edict of Nantes and commenced the trade of casting mirrors in London. They succeeded fairly well. The making of glass bottles was introduced about the same time; and that of flint glass was begun in the year 1557, at Savoy House off the Strand, and continued in Crutched Friars.[1] In 1635 Sir Robert Mansell obtained a monopoly for this latter manufacture being (we are told) "the first person who employed pit coal instead of wood in the furnaces"—[2] a hint borrowed no doubt from Dudley's experiments with iron a few years earlier, and to the second Duke of Buckingham is accorded the reputation of much improving our glass manufacture (in 1670) by means of certain Venetian artists brought over here from Italy during that year. Three years later the first *plates* of English glass are said to have been made at Lambeth under the auspices of the same nobleman. In 1773 the government of the day, anxious to encourage this industry, granted a charter of incorporation to a company called "The British Cast Plate Glass Manufacturers," which established itself near St. Helen's in Lancashire; and soon afterwards other large glass factories were erected not far off at Warrington. How much our glass manufacture has prospered since, and to how great and what unexpected uses (as building for instance) it has been put under modern methods of production, need not be recorded here.

PAPER.

The manufacture of paper must engage our attention next, though likewise very briefly. It had already passed partly out of the handicraft phase during the Middle Ages and was

[1] Lardner's Cyclopædia (Glass), p. 138. [2] *Idem.*

sometimes conducted in mills moved by exterior motive power.[1] There were several such paper-mills in Spain, Germany, and France, towards the close of that period, and after its termination, France seems to have enjoyed for a while a special pre-eminence in this respect. "The Huguenots," says Mr. Smiles, "carried on at that time large manufactories of paper in Auvergne and the Augoumois," having in the latter province "no fewer then *six hundred paper-mills*; the article they produced being considered the best in Europe."[2] When driven from their country by the infatuated policy of Louis XVI. they flocked over here in large numbers, working great improvements in this as in so many more of our industries. English paper had been hitherto (the same authority tells us) of the "whitey-brown sort—coarse and inelegant"—,[3] but a far better article was presently produced. The first manufactory of the finer kind was established in London, in 1685, and others shortly afterwards in other parts of England, and in Scotland. The demand for this commodity spread naturally with the diffusion of knowledge, and the other changes in social life coincident with the changes in industrial methods that have been described. The machinery used in paper-making became continually larger, more perfect in production, and more automatic in proceeding, till now a single machine often occupies the whole of a lengthy apartment, and a paper-maker (so-called) has for his whole duty but to ensure that the proper ingredients are combined in the fluid which goes in at one end and comes

[1] "Introduction to Factory System," p. 308.
[2] "Huguenots in England and Ireland," p. 136.
[3] "Huguenots," p. 272.

out at the other, a fully manufactured article. Thus a substance which might at first sight seem little capable of being produced on a great scale, and too fragile for the methods of modern industry, has become one of its most notable subjects.

THE STEAM-ENGINE IN TEXTILE MANUFACTURE.

But it is time to return to the great textile and related manufactures, and the influences exercised on them by the new motive power. We have seen[1] how, as early as 1698, Thomas Savery had taken out a patent for a "fire-machine" both for "raising water," and "occasioning motion to all sorts of mill work," and that his engine was much improved by Newcomen, and the joint result set to work in some mines and large metal factories in the early years of the next century. It does not appear, however, to have been applied to textile manufacture for long after this; though it certainly was so applied before that of Watt, and continued for a short time in operation alongside it. In 1783 a "fire-engine" was in use in the cotton factory of Messrs. Arkwright and Simpson of Shude Hill, Manchester;[2] and in 1792 (the author of "The Life of Crompton" informs us) "two" were erected in Bolton: "the first probably by Messrs. Peel, Ainsworth and Co. . . . . another a little down the brook by Mr. Grime, and a *third* (!) in connection with their new factory by Messrs. Carlile." But all these were atmospheric engines and their use a merely secondary one. They were not employed to turn machinery, but "to pump back to a higher elevation the very inadequate

[1] P. 104.

[2] Baines, "Cotton Manufacture," p. 226

supply of water afforded by the river Croal, that it might be worked over again in giving motion to the water-wheels:"[1] the function, it will be remembered, performed by that in use at the Coalbrookdale Iron Works and which obviously differed little from the ordinary one of pumping mines. It may safely be concluded then, that the atmospheric engine had practically made no way as a prime motor in textile industry, when, three-quarters of a century later, the steam-engine of Watt came to the front, and entered on its career of astonishing and unparalleled success.

The first engine on Watt's principle ever employed in textile industry was at the works of Messrs. Robinson, of Papplewick in Nottinghamshire, in the year 1785; and the first erected in Lancashire was supplied to the factory of Mr. Drinkwater of Manchester, in 1789. During the next year one was in use at one of Sir Richard Arkwright's mills;[2] and the first in Scotland was supplied to Messrs. Scott and Stevenson of Glasgow (in 1792). The above were all cotton mills. Shortly afterwards it was applied to flax-spinning at Leeds; and to wool-spinning there for the first time in 1793. The first worsted factory using it was erected by Messrs. Ramsbotham, Swain, and Murgatroyd at Bradford, in 1800; and from this period the progress all round was rapid and continuous. Spinning mills impelled by steam-power, and of ever-increasing dimensions, were erected in great numbers, and rapidly filled with mules and other machines. Weaving factories on an equally vast scale followed, more slowly at first, but at length

[1] "Life of Crompton," p. 72.

[2] Arkwright had apparently tried steam-power at an earlier period, but "out of an ill-judged economy he had adopted Newcomen's machines." See "Cotton Manufacture of Great Britain;" Vol. I., p. 276 (C. Knight, 1836).

with an overwhelming rush that nothing could withstand.[1] There remained but one step more to take to complete the typical textile factory of the modern era, namely that all parts of the manufacture should be brought together in one building, where the manufacture should be one "connected process" throughout, and where a single impulse should give motion to the whole. That end had been already reached indeed while the motive power was yet water, but under the more tractable despotism of steam it arrived at a magnitude and perfection not hitherto approached. Great buildings arose on every side; larger than any yet seen; fitted up in a greatly superior manner; and conducted with a regularity and decorum before unknown. Immense engines propelled the vast and complicated mechanism which transmitted the outside motive force to the machinery. Within them, workers civilly free, were subjected to a discipline such as had not been exceeded under the most elaborate political despotism, and came voluntarily to place themselves in that position. For the personal compulsion to labour familiar to ancient times an economic compulsion (the special product of modern times) was substituted; machine industry for the work of human hands.

BLEACHING.

The great quantity of textile fabrics produced by these means rendered necessary some great change in the supplemental arts of bleaching and dyeing that all might be dealt with under those processes when required. Accordingly in both departments of industry, but especially in the first named, a series of marvellous developments on the

[1] Compare p. 95.

lines of the factory system, and in union with the latest results of chemical research, rapidly presented themselves. Bleaching is a process requisite in the manufacture of vegetable fibres where whiteness is desired, both for the purpose of removing the dirt that may accrue during that manufacture, and in order that the natural colour of the raw material be extracted. It is particularly applicable therefore to linen and cotton goods, but up to even the middle of the last century was of a primitive and most laborious kind, occupying commonly from six to eight months in the performance. It consisted in "steeping the cloth in alkaline leys for several days, washing it clean, and spreading it upon the grass for some weeks": the steeping being called *bucking*, and the bleaching on the grass *crofting*. The cloth was then plunged for some days in sour milk; and these processes were repeated, diminishing every time the strength of the ley, till the requisite whiteness was obtained. The first considerable improvement on this method consisted in the substitution of a more powerful acid for sour milk, and was effected in Great Britain. Dr. Home of Edinburgh, about the middle of the last century, introduced the practice of employing water acidulated with sulphuric acid, by the quicker operation of which the souring of the cloth was effected in a few hours, and so much time saved[1] "as to reduce the whole operation of bleaching from eight months to four."[2] The immediate result of this discovery was that much

[1] Baines, p. 247.

[2] Encyclopædia Britannica, Art. "Bleaching." See also "Elements of the Art of Dyeing and Bleaching" by C. L. and A. B. Berthollet, translated by Andrew Ure, M.D.; *passim* (T. Tegg, 1841).

of the cotton and linen cloth formerly sent abroad to be bleached (principally to Holland) was now bleached at home; and had for this purpose to be exposed to the action of the sun and air in meadows and vacant places: and a curious secondary result—characteristic of social as well as industrial conditions at this time—followed. The necessarily unprotected position of the cloth excited the cupidity of thieves, and special and most barbarous laws were enacted against the offence of stealing it. An accident led Scheele, a Swedish philosopher, to record the effect of Chlorine (or Oxymuriatic acid) in bleaching the cork of a bottle, and this observation suggested the thought to Berthollet, a French chemist, of applying the same acid to the bleaching of cloth. He entered upon a series of experiments to that end, and at length in 1785 announced to the world that a new agent had been discovered by which this useful feat could be performed in as few days, or almost hours, as it had formerly taken months. Watt, who was in Paris at the time, heard of this success, and on his return to Scotland (towards the end of 1786) introduced Berthollet's system, with some improvements of his own, at the bleach-fields of his father-in-law Mr. Macgregor; and about the same time the matter attracted the notice of Mr. Thomas Henry of Manchester, then rising into fame as a skilful chemist and lecturer. Henry studied and enlarged the experiments of Berthollet, and in 1788 was able to exhibit to the merchants of his neighbourhood portions of cotton cloth treated entirely by chemical means, and perfectly bleached. The new system was taken up with enthusiasm by the Messrs. Ridgway of Horwich, and others; and put in practice on a very large scale. Great

bleach works were erected in which all the specialisations and labour artifices of the modern factory system were introduced, and wherein foreign motive powers were from the first freely used. In them, says Mr. Baines—writing fifty years ago—"everything is done by machinery or by chemical agents. . . . . Human hands only convey the cloth from process to process. . . . . steam-engines of considerable power are employed. . . . . strict method and order prevail." So great was the facility conferred, he adds triumphantly, that "it is recorded that a bleacher in Lancashire received 1,400 pieces of grey muslin on a Tuesday, which on the Thursday immediately following were returned bleached to the manufacturers at a distance of sixteen miles;" and he finally expresses the opinion that but for this "wonderful saving of time and capital" it is doubtful if the quantity of cotton goods then manufactured could have been ever bleached at all.[1] How greatly should these calculations need to be enlarged were he writing now!

DYEING.

Like bleaching, the very ancient art of dyeing came also under the new influences, but it cannot be said to have done so in the same degree. One reason for this is that dyeing not only *is* a very ancient art, but had long ago reached such perfection under former factory systems that it is doubtful if much room for improvement was left under later ones.[2] The great dye-houses of ancient Egypt, Phœnicia, and Babylonia; and of later

[1] Baines, pp. 248-253.

[2] The first considerable dye-works are believed to have been established in England by a German named Kelper (about 1643). They were situated at Bow.

Rome, Byzantium, and Alexandria; were on a scale of vastness that one may well hesitate before proclaiming inferior to anything we now possess, even if he is bold enough to institute the comparison at all, and these were all served by congregated and divided labour. The moderns have advantages of course that the ancients had not; and chiefly since the introduction of the steam-engine. Certain of the preliminary, as well as final stages pertaining to dyeing (as for instance what is specially called "finishing") can now be performed with a speed and accuracy that was not possible before then; but these are scarcely portions of dyeing proper, which is a chemical more than a mechanical industry,[1] and less dependent therefore on machinery and machine labour.

PRINTING.

It is otherwise with the beautiful art of printing, the art that is of imprinting patterns upon cloth, particularly cotton cloth. The whole story of its introduction and progress in England is of much general as well as special interest, and casts valuable side-lights on the history of the factory system.

It is clear that the classical nations were acquainted with an art analogous to it;[2] and traces of a like one may be discovered (both in remote and comparatively recent times) in various parts of the distant East, as India, Arabia, and China. But as far as Europe is

[1] Dr. Ure distinguishes between a chemical and mechanical industry in these terms:—"A mechanical manufacture being commonly occupied with one substance which it conducts through metamorphoses in regular succession, may be made nearly automatic; whereas a chemical manufacture depends on the play of delicate affinities between two or more substances." ("Philosophy of Manufactures," p. 2.)

[2] See Pliny; Hist. Nat., lib. xxxv. Compare "Factory System," p. 130.

concerned it was almost certainly unknown previous to the seventeenth century, when the knowledge of it seems to have been acquired by some servants of the Dutch East India Company trading to the Malabar coast, who carried it first to Holland. Anderson declares it was introduced into England in 1676;[1] but Mr. James Thomson, "a scientific and accomplished calico printer at Primrose, near Clitheroe,"[2] that the origin of printing in England "dated from about the year 1690, when a small print-ground was established on the banks of the Thames at Richmond, by a Frenchman." However that be, a curious concatenation of circumstances conspired to give it an unusual opportunity here, which it was not slow to utilise. About the time last mentioned, large consignments of printed calicoes were being brought from India; then lately opened to European trade; and the fashion ran high in favour of them for ladies' dresses. The manufacturers of native textures, especially the silken and woollen, were much aggrieved in consequence. "All the mean people," —complains one of them,—"the maid-servants, and indifferently poor persons, who would otherwise clothe themselves, and were usually clothed in thin women's stuffs made at Norwich and London, are now clothed in calico, or printed linen;" (Pamphlet quoted in Smith's "Memoirs of Wool," II., 195); and they procured (in 1700) an Act of Parliament (11 and 12 Will. III., cap. 10) altogether prohibiting such importations for the future. But this expedient failed. People would not return to their old materials of dress at the dictation of the legislature, and English printers merely procured

[1] "History of Commerce," Vol. II., p. 159.
[2] Baines, p. 259.

plain calicoes from abroad instead, and printed and sold them here. Thus all that actually resulted was a home manufacture to supplement the foreign one; and it was necessary to alter the plan of attack. This was done. In 1720 a law was passed prohibiting the wear of any printed goods (with some inconsiderable exceptions) of which cotton formed a part, a prohibition which it was hoped would be decisive. But such a law could not be maintained. As much of it as forbade the wearing of printed mixed goods was soon repealed, and those goods produced thenceforth in greater quantity than ever. A prolonged contest followed; nor was it till 1774 that all restrictions were removed, and the British calico-printing trade permitted to develop in accordance with the remarkable fund of energy that it had meanwhile (and largely in consequence of this very persecution) been accumulating.

Printing was at first confined chiefly to London and its vicinity,[1] but it was early brought into Lancashire, which is now its principal home. It was first introduced there by Messrs. Clayton, of the Mosney Works, Bamber Bridge, near Preston, who began business in 1764.[2] They were soon followed by Mr. Robert Peel, grandfather of the celebrated statesman, at a place called Brookside a few miles from Blackburn; and from this time for the next half-century the history of calico-printing in England is closely identified with that family. The celebrated Broad Oak Works, near Accrington, were established shortly afterwards by Messrs. Fort, Hargreaves & Co. (in 1782), and those

[1] "The first large establishment," says Mr. Baines ("Cotton Manufacture," p. 259), "was at Bromley Hall, in Essex."

[2] There is not a vestige of these works standing now.

also much celebrated in their day, of Messrs. Livesey Hargreaves & Co. near Preston, about the same time.

Its oldest form of printing was what is called block-printing, but this is now nearly obsolete.[1] It was a purely handicraft operation, requiring much taste and dexterity, but too tedious for our rapid age. The work is mostly done now by means of copper cylinders on which the patterns are engraved, and which, rapidly revolving, transfer colours supplied during the revolution to the cloth: the level parts being scraped meanwhile by an implement provided for the purpose. This implement is called "the doctor," and a characteristic story is told of its origin and title. When cylinder printing was first introduced into Lancashire (by the firm of Livesey Hargreaves & Co.), a workman who was watching the yet incomplete contrivance objected that the difficulty of removing superfluous colour was an insuperable objection to it. Mr. Hargreaves had himself been considering this point, and, taking up a common knife that happened to be at hand, he placed it horizontally against the revolving part, triumphantly asking how that would do? The effectiveness of the device was at once apparent, and the objector hastened to assure him (in true Lancashire phrase) that the difficulty was "doctored." Hence the name.[2] The blade was soon incorporated in the machine, of which it has ever since formed a part. Cylinder printing is said to have been devised by one Bell, a native of Scot-

[1] There are, I believe, only five places left in England where it is practised as an independent process now; one near Preston, another near Carlisle, one in Kent, one in Staffordshire, and at Mr. William Morris's decorative art works near London.

[2] But another and more prosaic account is that the word is but an abbreviation of "abductor."

land, and to have been tried there and in London with but indifferent success before finding its way to Lancashire. Almost from the first steam power was brought to bear in it, the great masses of metal used rendering a powerful motor necessary. The trade became a very favourite and profitable one. Printing works, to which bleaching and dyeing departments were commonly attached, increased rapidly, and continued to grow in size and productive power, till the largest came at length to cover great areas of ground, and employ large numbers of people. The first Sir Robert Peel is said to have employed as many as 1,000 children in one printing factory alone (in 1803), and 15,000 persons altogether in his various works. In another, at Primrose near Clitheroe, about 2,000 were employed at a rather later date. The machinery, comparatively rude at first, and necessitating the constant attendance of many persons about it, became, and is still becoming, more automatic, till in these latter days this purely ornamental process has assumed the character of a typical machine industry, conducted almost exclusively by factory methods.

MISCELLANEOUS INDUSTRIES.

The foregoing review completes in a sufficiently exhaustive degree for the purpose we have in view a survey of the greater manufacturing industries up to about 1830-35, from a period, fifty years earlier, when the inventions of the mule and power-loom, and the introduction of the steam-engine, brought about that second step in the Industrial Revolution which consisted in the substitution of machine industry and foreign powers for industry only aided by improved machinery. Within that period was established, we hold, the modern factory

system. From and after this period a notable progress in it, and in its various relations to industry, may be traced, unforeseen consequences of it appear, and new considerations in connection with it emerge. But the thing itself is there, the thing that was not there a century before, and which has merely developed—not altered—since. The course, too, of that future development may already be prognosticated. The greater industries are within its grasp, the lesser ones will follow. So much seems apparent for the next half-century at all events. But up to and about the time in question, up to for instance the appointment of the first of the great Commissions on the employments of the people,[1] this result had not ensued in anything like the manner, nor to the extent, we find it to have done to-day. The greater industries were within the influence of the new system no doubt, but a vast number of miscellaneous ones, now practically so, were not; and several still flourished altogether apart. Over some of the latter of these its shadow indeed was cast; and something more substantial than its shadow—namely a fierce competition—was seriously affecting others, but numerous minor occupations were recognised and practised then as exclusively individualistic or domestic which have ceased to be so since, and others were but slowly parting with those characteristics—which a few have not yet quite lost. A sempstress still meant a person who plied her needle with her fingers, not one who submitted her work to the action, or who herself was but the adjunct, of a sewing machine; a shoemaker actually made shoes, that is every part of them, and actually for

[1] Compare chap. ix.

single separate feet; careful housewives were proud of their skill in preserving fruits and making small confections: these were not produced in immense quantities in factories, and supplied to consumers through great wholesale distributors and retail dealers. On the other hand, some of the smaller industries had already commenced to follow the lead of the greater ones, and others that were new were organising themselves towards that end. Those most nearly connected with the earlier class were, as was natural, the first to go, and along with them a great and very various number relating to the increased demand for chemical compounds and improved methods of locomotion and production. Of new ones, the gutta-percha manufacture may be particularly mentioned: though the infinite variety of products which was to spring from this source was yet far from being foreseen. Great gas works were being erected; and sugar factories, oil mills, ship yards, breweries, and distilleries were rapidly adapting themselves to the new manner. But generally speaking they were only beginning to do so. The factory system was still a novelty and wonder, and regarded as connected necessarily, if not even exclusively, with the great, and in a special manner with textile industries; its identification with almost every department of productive labour, with the business of distribution, and even with the arts—as printing, lithographing, photographing,[1] and the like—was a development reserved, along with some others, for the next half century.

[1] A case is reported in a Glasgow evening paper of October 31st, 1890, wherein it was decided that a photographic studio is within the scope of the current Factory and Workshop Act.

CHAPTER IV.

THE ENVIRONMENT OF THE MODERN FACTORY SYSTEM.

Topography of the Factory System—Transport—Exchange of Products—Credit and Banking—Appearance and Attitude of the Workers—General Condition of the Country—Foreign Affairs—Home Affairs—Party Politics and the Factory System—Public Health—Education—Religion and the Factory System.

TOPOGRAPHY OF THE FACTORY SYSTEM.

The system of production thus firmly established in the greater industries, and gradually spreading itself over the minor ones, was differently located from either the earlier factory system or that transitional one that it displaced, and had (with the decay of hand-loom weaving) no connection at all with the domestic system. In former times, when manufactures were principally handicraft, and transit from place to place difficult and dangerous, factories were located chiefly in reference to these considerations; as nearly as possible that is to the raw materials for forming the fabric, and to the best means for carrying it to market. Thus the eastern counties were for long the principal seat of the earlier factory system in England; partly on account of the numerous flocks of sheep bred in the level plains adjacent; partly because those districts were safer for habitation and more fertile than mountainous regions; partly on account of their easy communication with the sea, and largely as being opposite Germany and the Netherlands, in which countries both trade and manufacture were

then most prosperous, and whence the rough goods sent from here were returned as finished products, or distributed widely abroad by land and water. For like reasons many of the small towns just opposite the French coast had early become seats of industry, and they continued so—sometimes even in an increased degree—throughout the religious persecutions of the sixteenth and seventeenth centuries. But Bristol, situated on the wide estuary that takes its name, was at the same time a great emporium and port, and a peculiarly fine breed of sheep was reared in the south-western counties. Hence, Gloucestershire, Somersetshire, and Wiltshire became celebrated for their fine woollen cloths; a coarser kind being manufactured in the neighbouring Oxfordshire and Berkshire. This latter district had moreover long been subjected to another set of influences operating in the same direction. Its western boundary was planted with industrious settlers as far back as the reign of Henry I. (who established them there as a protection against the Welsh),[1] and its south-eastern one had been a famous site of factory industry (at Winchester) from the time of the Roman occupation. This shows that tradition and political expediency are forces to be sometimes taken account of in determining the location of manufactures. A little later and yet another influence may be indicated, the conferring monopolies, namely, on particular districts, or even individuals, which prevailed most in this country under the Tudors and Stuarts. But with the change from handicraft workmanship to the use of foreign motive agents, with increased liberty of action, improved locomotion, and greater secu-

[1] "Introduction to a History of the Factory System," p. 284.

rity for life and property, the location of factories became subjected to a new set of conditions. It was easier now to bring the raw material to the motive power than the motive power to the raw material; or rather it was possible to do the one but quite impossible to do the other, and at the same time industry became ever less dependent on monarchs and corporations. The topography of the factory system had to adapt itself accordingly to these new circumstances. The particular motive power in demand at this time was that of falling water, for wind had been found too uncontrollable and variable to be of much use,[1] and fire had not yet been taught to furnish an available one. Now, the southern and eastern parts of England supply this power in a comparatively small degree, whilst in the northern counties—as Lancashire, Cheshire, and Yorkshire—it is to be had abundantly. The reason is found in the formation of the country itself. "The western side of the island," says a local historian,[2] "is subject to continual rains, caused by the bursting of the clouds formed by the exhalations of the Atlantic Ocean, and borne inland by the westerly winds, which prevail for nearly three-fourths of the year on the Lancashire coast. The average rainfall on the west side of the island is thirty-five inches in the year, while that on the eastern side is only about twenty-five. The range of hills which extends from Kendal in Westmoreland, to Macclesfield in Cheshire, stops the progress of a large portion of the clouds as they are flying eastwards, and causes them to discharge their contents along the edges

[1] There are few recorded instances of windmills being used in the greater kinds of manufacture, though undoubtedly some were so used both at home and abroad. For examples see pp. 85, 116.

[2] Mr. Thomas Baines; "History of Liverpool," p. 15 (Longmans, 1852).

of the hills, and on the adjoining valley and plains of Westmoreland, Lancashire, and Cheshire, in such profusion that the rainfall on some points of the hills is found to be from fifty to sixty, and sometimes seventy, inches per annum. From these causes the water power of the districts which lie on the sides of these hills is greater than that of any other part of the kingdom." As early as the reign of Queen Elizabeth—this writer continues—"Kendal, Manchester, and Halifax, all of which lie around them, were the three great manufacturing towns of the North of England; and it is in the neighbourhood of this chain of hills that other great manufacturing towns have since arisen, at Preston, Blackburn, Bury, Ashton, Stockport, Oldham, Macclesfield, Congleton and Leek on the western side of them; and at Leeds, Bradford, Wakefield, Huddersfield and Sheffield on the east; as well as at Belper and Derby, which stand on the streams flowing southward from the Peak of Derbyshire. The water power of Lancashire is also greatly increased by the rapidity of the western descent from the hills. The slope along which the rivers of Derbyshire reach the sea is nearly two hundred miles in length, following all the winding of the river Trent; that by which the Yorkshire rivers reach it is nearly one hundred miles; that by which the Lancashire rivers reach it is little more than fifty. Thus, from the combined effect of the extraordinary weight of rain that falls on the hills of Lancashire, and the rapidity of the descent, the momentum applicable to the propelling of water mills is greater in this county than in any other part of the kingdom; whilst from the frequency of the rainfall it is also more constant." Accordingly, this part of the island became the earliest

home of the modern factory system, chiefly confined as yet to textile industry. The cotton manufacture especially, which had no ancient traditions to survive and had already under the domestic system effected a certain lodgment there, settled almost exclusively in it; whilst the woollen, for reverse reasons, was slower in doing so, but fixed itself at length principally in Yorkshire. It had for so long existed as a domestic calling in those parts that the change to either the earlier or later factory systems was a more painful and prolonged one. The linen manufacture found at the same time a congenial home in northern Ireland and Scotland; partly for the same reasons, but partly also because the flax plant was to a considerable extent cultivated there, or imported easily from the countries lying on the other side of the German Ocean, where it was cultivated very largely. The location of the silk manufacture when it came to us was determined obviously by similar motives. Whilst still all handicraft it settled in London; where customers among the wealthy and luxurious were most likely to be found; and the weaving branch long remained there afterwards, and to some extent does so still, in the squalid quarter of Spitalfields. With the application to it of the factory system it travelled —like the other textile industries—northwards, finding its first home (as we have seen)[1] at Derby, and its principal seat in later years at Macclesfield. Then followed the epoch of the steam-engine, and a different set of topographical impulses came into play. There being no longer a necessity to seek either the motive power or material in the same degree, labour became the

[1] Pp. 2; 70.

prime consideration, the next most important one being to keep as near as possible to what furnished subsistence for the new motor. Now, it so happens that those hilly districts where modern manufacture first settled possess in a high degree the materials for these later as well as for the earlier set of requirements. Lancashire, Yorkshire, and Cheshire abound in coal and iron, and abut on counties similarly favoured. They also possessed even at that time large centres of population. In those great centres then, adjoining these great mineral deposits, that which is as yet the latest form of the factory system found its favourite home, there where the sources of the new power might be dug up on the spot, where the metals that went to form its potent implements could be procured from no great distance, and an unfailing supply of "hands" to minister to its needs be the most readily obtained.

It will not be supposed, we trust, that in this summary we assume to have enumerated very fully the causes determining the topography of the modern factory system; we have but mentioned the most obvious ones. Within and outside them was ample room of course for the action of many others; and within them and beyond them it is quite certain that many others did, and do, operate. The personal qualities of even a single individual may have sometimes a very powerful influence in deciding whether an industry shall settle in this or that particular place; the conduct of a number of individuals combined may have, and often has had[1] a most important one; tradition counts for something; inherited aptitudes for much; climate for a great deal, and many other causes might be cited. Still, taking the modern

[1] For a striking instance see *infra*. p. 157.

system as a whole, and viewing it exclusively from the present standpoint, it will be found, we believe, to have followed very much the lines here traced, in obedience for the most part to the impulses described.

TRANSPORT.

Among agents not yet mentioned which were potent in determining the topography of the factory system facilities of transport should be reckoned. These have also much influenced its general development; and in return have been greatly influenced by it. In very ancient times this consideration of transport was probably the most important of all. While the world was yet largely unexplored, and sparsely peopled by civilised men, the dispersion of products would be, we may well believe, the fundamental difficulty of commerce—the usual accompaniment of production on a very large scale. Thus the earliest industrial civilisations were seated in valleys traversed by navigable water-ways,[1] or on the sea-coast; and in notable instances, as those of China and Ancient Egypt (and the Netherlands in later times), these natural water-ways are commonly found reinforced by artificial ones—canals, or connecting channels of rivers. The Romans introduced in their time a new possibility for commerce, and therefore for enlarged production. Their magnificent roads constructed almost in straight lines through Europe, and a great part of Asia, gave internal trade an impetus such as was new in the world's experience. But when the Roman rule came to an end, these highways, like so many other monuments of the pro-

[1] See "Introduction to a History of the Factory System," chap. v., pp. 178-85.

digious power they once wielded, went gradually to decay, and at the time under review little or nothing of them remained. This was very disastrous to industry. What the condition of our English roads was in the Middle Ages we need not pause to enquire; what it was at the accession of William III. we know from Macaulay's History of England[1] where, in the celebrated third chapter, full details are given; but even half a century later—that is not one hundred and fifty years ago—it was nothing short of appalling. Whitaker, writing about 1753, relates how "the roads near Leeds consisted of a narrow, hollow way, little wider than a ditch, barely allowing of the passage of vehicles drawn in a single line; this deep narrow road being flanked by an elevated causeway covered with flags or boulder stones,"[2] and many other writers of the same time bear similar testimony. The melancholy experiences of Arthur Young, at a little later one, are almost too well known to be quoted, but some brief extracts may be made. In Essex he found the ruts "of an incredible depth." Between Bury and Sudbury in Suffolk, "I was forced to move as slow in it as in any unmended lane in Wales. For ponds of liquid dirt and a scattering of loose flints, just sufficient to lame every horse that moves near them, with the addition of cutting vile grips across the road under the pretence of letting the water off, but without effect, altogether render at least twelve out of these sixteen miles as

[1] Vol. I. pp. 182-87 (Longmans, 1880).

[2] "History and Antiquities of the Town and Parish of Leeds," by Dr. T. D. Whitaker, 1816. Quoted by Mr. Smiles in "Lives of the Engineers," Vol. III., chap. v., in which, and the immediately preceding and succeeding chapters, much information on all this subject is to be found.

infamous a turnpike as ever was beheld."[1] Between Tetsworth and Oxford he found "the so-called turnpike abounding in loose stones as large as one's head, full of holes, deep ruts, and withal so narrow, that with great difficulty he got his chaise out of the way of the Witney waggons."[2] "Barbarous" and "execrable" are the terms which he constantly employs in speaking of others. From Gloucester to Newnham he found a "cursed road," "infamously stony," with "ruts all the way." From Newnham to Chepstow "you will form a clear idea of them if you suppose the country to represent the roofs of houses joined, and the road to run across them." At a later period still, going north, he describes the road between Richmond and Darlington as like to "dislocate his bones"; while of that between Preston and Wigan he says, "I know not in the whole range of language terms sufficiently expressive to describe this infernal road. Let me most seriously caution all travellers who may accidently purpose to travel this terrible country to avoid it as they would the devil; for a thousand to one they break their necks or their limbs by overthrows or breakings-down. They will here meet with ruts, which I have actually measured, *four feet deep*, and floating with mud only from a wet summer. What therefore must it be after a winter?"[3] The possibility of conveying any quantity of merchandise along such paths as these might well-nigh seem hopeless, and the inappropriateness of production on a very large scale to such surroundings is clear.

[1] "Six Weeks' Tour through the Southern Counties of England and Wales," 2nd Ed., 1769, pp. 88-9.

[2] Smiles, p. 66.

[3] "A Six Months' Tour through the North of England," Vol. IV., p. 431; quoted by Smiles.

It is indeed a striking tribute to the enterprising spirit of industry that so much was carried notwithstanding, and that a few large establishments did exist.

The actual method of transportation adopted was either that of the stage waggon, lately introduced, or the pack-horse: the latter commonly for the more costly kind of goods; as wool and cutlery; for long distances, and in mountainous regions. These pack-horses travelled in single-file, the bales of merchandise being strapped across their backs, and their drivers riding or walking beside them. The foremost horse bore a bell, or collar of bells, and was hence called the "bell horse." He was selected because of his sagacity, and "by the tinkling of his bells the movements of those following were regulated." These bells "gave notice of their approach to any other convoy that might be advancing from an opposite direction"—a matter of some importance—"as in many parts of the path there was not room for two loaded horses to pass each other, and quarrels and fights between the drivers of the pack-horse trains were frequent as to which of the meeting convoys was to pass down into the dirt and allow the other to pass along the bridle-way." Some of these pack-horse roads may still be traced.[1] The heavier goods, as coal and building material, were sent by water, wherever facilities for that mode of transit existed, and in the long courses and wide estuaries of her rivers England has always had exceptional advantages of this kind.

It was in this last direction, as might be ex-

[1] Within living memory pack-horses traversed the mountain paths between Lancashire and Yorkshire, bringing merchandise to and from the remoter valleys there, as Rossendale, Wensleydale, Swaledale, &c. They were also until quite lately employed at the mines in Derbyshire.

pected then, that serious efforts were first made towards improving the means of transport here when production began definitely to expand. As early as 1635 a project had been formed for rendering the river Avon navigable; and Andrew Yarranton (who was well acquainted with the advantages of inland navigation through his travels in Holland) made in 1665 a bargain with the burgesses of Droitwich to connect that town with it.[1] The following year we find him occupied with a similar scheme to open up the navigation of the Stour; by connecting it by an artificial channel with the Trent; and many like ones are attributed to him. Yarranton's projects were not carried out—either in this direction or some others that he indicated with no less sagacity—but from about this period various Acts of Parliament for connecting and deepening beds of rivers were passed, and in 1720, in particular, a very important one for making the Mersey and Irwell navigable between Liverpool and Manchester. About the same time the navigation of the Aire and Calder was opened up in Yorkshire. In 1755 the first actual canal was cut—near Liverpool; and three years later the Duke of Bridgewater constructed a very important one from his coal mines at Worsley to Manchester, soon succeeded by a longer and still more important one from the same town, through Chester, to join the Mersey and thereafter for another half century this mode of communication spread rapidly.

Contemporaneously with the establishment of the modern factory system then we have to picture the surface of England intersected by these silent water-

[1] "Industrial Biography," p. 63.

ways, along which heavily-laden barges wound their toilsome way; an England still as different from the England of to-day as it is almost possible to conceive. And in the prominent features of that environment, the lumbering waggon, the clumsy lock-gates, a not unfit type is found of earlier factory methods, with all their ponderous grim surroundings, compared with the wondrous progress of modern times.

Meanwhile great improvements had been made in the construction of roads and bridges, the earliest names in connection with which are respectively those of John Metcalf and Thomas Telford which adorn the end of the last and beginning of the present century.[1] As late as 1814 a parliamentary committee had declared the road between Carlisle and Glasgow so bad as to endanger the lives of passengers using it, and ordered it to be repaired, and Robert Owen relates how in passing to New Lanark from Manchester a few years earlier he spent "two days and three nights of incessant travelling" on the way, and in particular had "to cross a well-known dangerous mountain at midnight, called Trickstone Bar, which was then always passed with fear and trembling."[2] It was thoroughly reconstructed by Telford. Telford's method of road-making was improved by McAdam, and is the one adopted still.

But a new means of transport had now arisen; fated soon to outstrip anything yet seen, or imagined; and in fact to revolutionise civilisation itself. This was of course the railway system. It was just coming into

[1] For full accounts of their lives and works, see "Lives of the Engineers," Vol. III.

[2] "The Life of Robert Owen," written by himself, Vol I., p. 44 (Effingham Wilson, 1857).

vogue at the close of this period and after the actual establishment of the modern factory system.

EXCHANGE OF PRODUCTS.

Alongside these greatly increased facilities of transportation and production there appeared also at this time an equivalent difference in the methods of distributing and exchanging the products of manufacture.

The centres of distribution on the wholesale side were now (in textile industry) the Cloth or "Piece" Halls, of which there were several in England, modelled for the most part on the far more beautiful structures fulfilling the same functions abroad. Leeds had two such halls; one for white, one for coloured cloth; and similar ones existed at Wakefield, Bradford, Halifax, Huddersfield, and elsewhere.[1] Here the manufacturers met to make their bargains with the merchants and retail dealers, often displaying actual portions of their goods as samples; and to such centres came the small domestic manufacturers from great distances. In the less frequented parts of the country pedlars performed the usual functions of salesmen, traversing them with packs on their backs, and displaying their wares to the unsophisticated inhabitants—recommended we may be sure with much ingenious and eloquent dissertation. Considerable facilities to fraud were opened, it is said, by this system, and that not merely on the part of the salesmen, but the customers also. It used to be told about the wild hillsides how these pedlars frequently tempted the wives of isolated manufacturers to purloin small quantities of yarn, when money was short, to exchange for articles of luxury or convenience,

[1] For some interesting observations on these "cloth halls" see Brentano, chap. v., p. 107.

valued of course far beyond their intrinsic worth. As the bribe took often the form of a bowl, or some similar piece of glass or earthenware, the yarn thus disposed of was facetiously known as "bowl-weft." There were few shops outside the great towns then, and what there were bore little resemblance to the lofty, many-windowed, and showy ones of to-day. When not mere stalls or booths, they were the ordinary apartments of dwelling-houses (always dark and confined), wherein the goods offered for sale lay usually piled about in heaps, and into which the customer was invited by the verbal exhortations of the master or one of his apprentices.[1] Not only was the difference between wholesale and retail little marked as yet, but that between producer and dealer was very partially recognised. Drapers meant equally the makers, merchants, and sellers of cloth, and clothiers had often the same significance. It would appear, however, that the former was a name applied specifically to the London, the latter to country traders.[2] Grocers were persons dealing *in gross;* providing you that is with a great variety of goods, not indeed to the extent of the "Monster Houses" and "Universal Providers" of modern times, but more after the fashion of the marine-store dealers and small brokers who still frequent the obscurer quarters of seaport towns. The ancient name for the class of traders now called grocers was *pepperers;* and a more

[1] Thus the term *Haberdasher* is said to be derived from the expression of the shop-man (presumably a German) offering to the passers-by an article from his stock, "*Habt ihr das?*" ("Have you this?"). "Draper's Dictionary," p. 157.

[2] See Morley's "Memoirs of Bartholomew Fair," p. 75 (F. Warne & Co.). "Draper's Dictionary," p. 101. Compare chap. ii., p. 63.

modern one, pointing to a greater diversity of commodities "Italian Warehousemen," which is occasionally used still. The dressmaking and tailoring trades had only lately become separate;[1] that is to say, ladies who had their dresses made outside their own homes had them made by tailors (as they do sometimes now). The expression "millinery" referred exclusively to certain fancy articles imported from Italy, principally through dealers in Milan; "napery" was a name applying to linen goods; "drapery" to woollens; as we use the term "cutlery" for a particular branch of manufactures in metal, and *mercers* were not what we now understand by that term, but general dealers in a great variety of small wares, as toys, drugs, and many sorts of household requisites.

The depopulation of the rural districts, the establishment of the factory system in towns, and improved means of communication, had already made great changes in these respects fifty years ago. The "halls" were giving place to the more modern "exchanges," and shops had greatly multiplied and were changing greatly their characters. The business of exchange, like that of production, had entered in fact on a new phase, and was developing on a scale of somewhat similar

[1] It is stated by Dr. John Yeats in "The Technical History of Commerce," Vol. II., p. 287, that this separation of function "has sprung up only within the Nineteenth Century." This is certainly an exaggeration. The ladies' dressmaker was a well specialised branch of industry for at least a hundred years previously. It was, however, commonly called by a different name: that of "Mantua Maker;" from Fr. *manteau*, a mantle, and with reference in part to the fashion of wearing silk; much of which was imported then from Mantua and the neighbourhood. In the "Draper's Dictionary," p. 211, may be found the following statement on this head: "The mantle known as mantua is said to have been introduced here by Henrietta, Queen of Charles I., who is also credited with the first introduction of female labour in clothing the outer woman. Mantua-making thereafter became a common female occupation, and indeed the term came to comprise all kinds of dressmaking."

magnificence. In a rather scarce volume called "The Book of English Trades,"[1] which already in 1824 had reached its *twelfth edition*, this condition of things is curiously illustrated. The tradesman under discussion is the linen draper, whose business, we are informed, is "now comprehended under several distinct branches." There is first: "The linen merchant, a person whose more immediate province it is to import articles of linen manufacture." There is next, "the wholesale linen draper, a person whose business is to purchase linens from the merchant, and muslins, calicoes, printed cottons, etc., from the different manufacturers . . . and to sell them to the retail linen drapers throughout the kingdom, as well as frequently for exportation." "But the most striking part, . . . is the development of the retail linen draper":—on whose new-born grandeur the author waxes eloquent. "In most of the principal streets of the metropolis," he writes, "shawls, muslins, pieces for ladies' dresses, and a variety of other goods, are shown" (by this functionary) "with the assistance of mirrors; and at night by chandeliers, aided by the brilliancy which gaslights afford; in a way almost as dazzling to the stranger as many of those poetical fictions of which we read in the 'Arabian Nights' Entertainment'": and yet, notwithstanding this resplendent picture, he cannot "avoid considering these overgrown and engrossing houses as a very great evil"; but "we suppose that as long as the British public are actuated by real or pretended cheapness, these houses must continue to monopolise the profits which would be more advantageous to the community if considerably

[1] "The Book of English Trades and Library of the Useful Arts" (Whittaker, 1824).

subdivided." The feeling against concentration of labour and unregulated competition in retail trading is here very adequately expressed, and we note the unmistakable influence of the Industrial Revolution in this direction too.[1] How, afterwards, that new and alarming type of trading spread from the metropolis to the provinces; and how, subsequently, what is called the Co-operative movement in distribution spread from the provinces thither, belongs rather to the next half-century, and to another department of our industrial history from that with which we are now concerned.

CREDIT AND BANKING.

The greater facilities for the transportation of merchandise assisted, it has been said, the development of the modern factory system, which on its own side afforded these a novel stimulus. Another influence which greatly advantaged it, and by which it was powerfully affected, was the extension of the system of credit and banking which accompanied the growing commercial and industrial prosperity of the country. As the former process may be said to have provided wheels for the car of commerce, the latter may be said to have *greased* them. Banking in its essence is as old almost as money;[2] as old at all events as the time when great accumulations of it began to be made and held by separate

[1] We may note also the advent of the great controversy as to late hours of labour in shops. Till the commencement of the present century night trading was almost unknown; the streets being dark and dangerous, the principal concern of tradesmen was to shut out wayfarers from their premises rather than invite them in. But with the invention of gaslight; and the Industrial Revolution; a change soon came. As early as 1821 we read of an appeal emanating from shop-assistants against "the immoderately long hours of business," and in 1842 a Metropolitan Drapers' Association was formed for agitating this question; the first of a long succession of others.

[2] It is even older than *coined* money.

individuals in a State. It was a well-recognised system under both the Athenian and Roman Republics, and probably in long anterior times. Credit, again, is a device which must always have been taken advantage of to a greater or less extent whenever and wherever trade had reached a certain—not very advanced—point, even a little advanced beyond primitive barter. But the great expansion of banking familiar to modern times is as much a creation of those times as the new highways, the new machinery, or the new motive power. In the Middle Ages that function of it which consists in loaning money was commonly performed by Jews; and in little advanced communities they are still to be found fulfilling it. But another function of banking is the safeguarding of deposits, and establishments for this purpose are believed to have originated among the prosperous commercial republics of Italy during the thirteenth and fourteenth centuries. Venice indeed had a public bank as early as the latter part of the twelfth century;[1] but that established in Genoa in 1345 is generally cited as introducing the modern type. The system spread to Holland and Germany when the centre of commercial activity shifted thither, and in 1609 a public bank was established at Amsterdam; and another at Hamburg in 1619. It was in imitation of the first of these that the Bank of England started in 1694. So far the above were great chartered establishments, whose proceedings were of a national and semi-official character; the *business* of banking as we now understand it, that is as bill-discounters, and banks of issue, had scarcely yet commenced. But contemporary with the coming of the modern factory system private banks began

[1] It was founded in 1157.

to multiply in England, and banking to be taken up as a trade conducted like other trades by the competitive method; and so rapid was this development that whereas, we are told,[1] there were "out of London hardly a dozen banks in 1750; in 1793 there were more than four hundred," and in another half-century more than double that number. The first and most obvious result of this change was (from our point of view) to greatly facilitate production on a large scale, to reinforce from within, that is, as the other agencies we have drawn attention to were powerfully aiding from without, the establishment of the new industrial methods by giving to traders more money to deal with and to capitalists increased facilities for borrowing. The next was to promote, by reason of the same facilities, the rush and pressure of speculation; and a contingent result, of ominous import to the working class, was the giving occasion to the phenomena known as *commercial crises*, which began now to occur at regular intervals.[2] With their appearance in this connection, the continuous chain of cause and effect in the financial as in the manufacturing departments of modern industry may be said to have been completed.

APPEARANCE AND ATTITUDE OF THE WORKERS.

What, meanwhile, was the attitude of the people principally concerned towards the new industrial system thus thrust upon them —for they cannot be said to have been consulted as to its introduction; how did those most

[1] "The Romance of Trade," by H. R. Fox Bourne, p. 89 (Cassell & Co.).

[2] In the course of the hundred years or so that we have had generally under review there were no less than eight of these at the following epochs, namely, in 1763; 1772-3; 1793; 1810-11; 1815-16; 1818-19; 1825-6; and 1836-41.

nearly affected regard it? There is no doubt they were at the outset gravely opposed to it; nor should this opposition be all set down to ignorance and lawlessness, as it too commonly has been; nor are they to be hastily blamed for the view they took. Passing by for the present more fundamental questions of the comparative real worth—social, ethical, and æsthetical, as well as economical—of the old and the new régimes, was there nothing in the mere aspect of this change to alarm and distress them? Undoubtedly there was, nor was this alarm confined only to those who were the principal sufferers. Let us look for a moment with their eyes, however, at what was going on. We have seen something of the nature of that domestic industry which immediately preceded in the factory districts the rise of the modern system, and lingered alongside it for a while; and of the earlier factory system. We have endeavoured elsewhere to reproduce in some degree their lineaments. We shall quote here a description of the personal appearance of the typical domestic workman too, as he appeared to a contemporary observer, contrasted with one of the new race of factory operatives. Our authority is again Mr. Gaskell.[1] "He (the former) was a robust and well-made man, reaching the average altitude of his race, clean limbed, and with an arched instep, ruddy complexioned, his general contour rounded from the deposition of adipose matter, and from muscular development, possessing considerable physical power, and delighting in athletic sports. Not called into active and permanent labour till his frame was to some extent set,

[1] "Manufacturing Population of England," pp. 158-62.

and his bony system perfected, he ran no danger of any shrinking or yielding in these parts, neither were his animal passions pushed into premature activity by high atmospheric temperature, aided in its excited operation by vicious example at home and abroad. His offspring were, like himself, a chubby and rosy faced set of urchins—healthy from their birth upward, tended by affectionate mothers, whose domestic occupations never interfered with their maternal duties. Permitted to range at will in the free and balmy air of Heaven, their young minds inhaled a love of nature with their daily and hourly growth, while their social affections were fostered and directed under the eye and admonition of their parents." But how different were the workers from the mills! . . . . " Their stature low—the average height of four hundred men, measured at different times, and different places, being five feet six inches. Their limbs slender, and playing badly and ungracefully. A very general bowing of the legs. Great numbers of girls and women walk lamely or awkwardly, with raised chests and spinal flexures. Nearly all have flat feet, accompanied with a downtread, differing very widely from the elasticity of action in the foot and ankle attendant upon perfect formation. Hair thin and straight—many of the men having but little beard, and that in patches of a few hairs, much resembling its growth among the red men of America. A spiritless and dejected air," &c. Now, in these sketches there is no doubt occasional exaggeration, and more than one unwarranted assumption, and the comparison is made, we must remember, by an avowed opponent of the factory system, and before such a thing as factory legislation was known. Yet who can deny

some truth in the picture? Certainly not those who knew what factory life at that time meant; not those who will have already learned from these pages even a little of the evils that prevailed under its unregulated form; and the consequence is we not merely find the general testimony of the workpeople bearing out that description but their action was an unequivocal testimony to belief in its accuracy. They refused at first to send their children to the mills. This fact is stated not alone by the author last quoted, but many others personally acquainted with what occurred,[1] and is especially insisted on by the only historian of the "Factory Movement" that England has yet produced, —the gentleman, namely, who under the name of "Alfred" has published a work with that title.[2] "When the first factories were erected," this writer says, "it was soon discovered that there was in the minds of the parents a strong repugnance to the employment thus provided for their children," and "for a long period it was by the working people themselves considered to be disgraceful to any father who allowed his child to enter the factory." . . . "That parent made himself the town's talk, and the unfortunate girl so given up by her parents, in after-life found the door of household employment closed against her, because she had been a factory girl." It was not, he adds, "until the condition of portions of the working

[1] As, for instance, Sir Robert Peel, Mr. David Dale, and Mr. Nathaniel Gould in their evidence before the House of Commons Committee in 1816. See also in the next chapter the experiences of Mr. Owen.

[2] "The History of the Factory Movement from the year 1802 to the Enactment of the Ten Hours Bill in 1847," by "Alfred," p. 16 (Simpkin & Marshall, 1857). It is I believe no longer a secret that the real name of the writer of this book is Mr. Samuel Kydd, Barrister-at-Law.

classes had been much reduced that it became the custom with working men to eke out the means of their subsistence" in this way. This is an important, a striking, and a very suggestive fact. It proves beyond cavil that selfish prejudice was not alone responsible for those regrettable outbreaks of violence which accompanied the establishment of the modern factory system, but that much of the antipathy to it rested on a solid moral basis. Doubtless other motives played a part as well. Few of us are so public-spirited as to view with satisfaction the compulsory appropriation of our property for public objects, even when we are sure those objects are good ones. Certainly employers of labour have seldom presented themselves for approbation in this light. Now a workman's property is his acquired skill; most often (in this country) he has no other; and the substitution of machinery, and especially of automatic machinery, for it was a substitution therefore depriving him of the value of this property in the exact degree that it successfully competed against it. By that deprivation others might be enriched, even he and his family might obtain advantages they had not before, and his successors were pretty certain to do so. Nevertheless those advantages were obtained without his permission, and to his apparent loss. Should it surprise us then that he objected to this proceeding—and the more so if he believed it to be not for the public good at all—when he already saw evil results flowing from the process and did not foresee the good results? Surely not, and this was just the point of view from which the handicraft workers at first regarded the factory system. They felt the hardships brought on themselves, and

they saw the evils brought on others; the future was beyond their purview. They set themselves therefore against it; taking the only means within their knowledge and power to show displeasure; they refused to send their children to the factories, and they attacked the factories themselves. As early as 1779 a spinning mill of Arkwright's, at Birkacre near Chorley, was wrecked. Somewhat later Peel's printing works at Altham were gutted, and the machinery destroyed; and when Mr. Hall erected the first steam-engine for spinning in the Mosley district (in 1796) he was obliged "to convert his mill into a garrison, and keep the gates locked both by day and night." These are but samples of what occurred in many parts of Lancashire; and similar scenes were enacted in Yorkshire. The woollen factory of Mr. Foster at Horbury was demolished by bands of infuriated workmen; that of Mr. Cartwright, near Liversedge, was vigorously attacked and gallantly defended: the rioters being only defeated at length after a desperate and deadly struggle;[1] and Mr. Horsfall, a manufacturer of Huddersfield, was shot near his own home. The reprisals were scarcely less dreadful. Three men were executed for this last offence (in 1813); and in another instance *fourteen*, all on the same day. With the introduction of the power-loom the fury of the workpeople was turned on it. In 1812 a determined attempt was made to destroy a factory at Middleton where weaving by steam-power had just been introduced, and a pitched battle, lasting over several days, ensued. The proprietors in this case had been forewarned:

[1] This was the incident that Charlotte Brontë turned to such good account in "Shirley."

"Armed defenders occupied the building, and when the place was attacked and the windows broken the crowd was fired upon, three of them being killed and many more wounded." On the next day they returned to the assault. "But the authorities were awake and the factory was now defended by soldiers, and the crowd foiled in their first object, turned to the house of the proprietor, and wreaked their vengeance by setting it on fire." Here they were followed by the military, and five more of their number killed, and many wounded. "Four days later a mob assembled at West Houghton (in the same neighbourhood) with the declared intention of destroying the power-looms which were at work at that place." A troop of soldiers was despatched thither from Bolton. Finding all quiet they returned home again, when the mob immediately re-assembled, "and set fire to, and completely destroyed a large factory."[1] The sequel to this melancholy story is told by another writer, who draws a moral from it very interesting in connection with a subject recently under discussion the topography, namely, of the factory system. "The power-loom, driven from West Houghton, sought shelter in a secluded nook adjoining three counties where there was neither church, magistrate, nor school. Here this branch of industry found a refuge, and took root. Staleybridge, which seems to have been chosen by the patrons of the power-loom simply because it was neglected and deemed worthless by everybody else, is now one of the most remarkable instances of the rapid accumulation of wealth, population, and buildings produced by the

[1] "The Facts of the Cotton Famine" by John Watts, pp. 27-28 (Simpkin & Marshall, 1866).

cotton manufacture even in that land of wonders over which this branch of industry has spread."[1] In the Midland counties the condition of things had become, if possible, even more alarming. Numbers of people under the names of Luddites, were in open revolt, not only against the improved machines then being introduced into the stocking industry, but at length against all constituted authority.[2] These riots were at their worst in 1811 and 1812; and in 1816 there was again a very bad outbreak, which was punished with terrible severity. Mr. Felkin calculates that on the whole "about one thousand stocking frames and eighty lace machines were destroyed during this outburst of popular frenzy."[3] In 1823-4-5-9 many lamentable riots occurred in the cotton factory districts, and led to further very melancholy results. Even as late as 1835 the same difficulty had to be faced at Coventry; when steam was first applied to ribbon-weaving; though after some ferment it was faced in a better spirit. The novel experiment was tried there of having a central engine to supply power to a number of cottages grouped round, by which arrangement it was hoped the advantages of the modern factory system might be secured whilst those of domestic life need not be forfeited. The experiment failed; though it may have contained a germ destined

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[1] "Silk, Cotton, and Woollen Manufactures," by W. Cooke Taylor, LL.D., p. 127 (Bentley, 1843).

[2] The name of Luddism and Luddite was originally derived from that of a half crazy lad, Ned Ludlam or Ludd, who some thirty years before that had broken to pieces a machine he was set to work at, and whose name was taken thenceforth as representative of similar exploits. The details of this particular one differ a little in the accounts of different narrators, but the broad facts are common to all.

[3] "History of the Machine-wrought Hosiery and Lace Manufactures," by William Felkin, p. 239.

to fructify hereafter in a manner little looked for then. Meanwhile it was a pathetic illustration of that love of home and home-life which the factory system, whatever its other valuable qualities, undoubtedly broke into, and which assuredly was at the bottom of much of the reprehensible and wholly futile violence of those days.

GENERAL CONDITION OF THE COUNTRY.

The general condition of the country at this time was of a kind to focus and intensify all these elements of disorder, and the responsibility of much that occurred should in fairness be laid to its account.[1] We were engaged just then in the throes of a mighty contest, from which we were destined, it is true, to emerge victorious, but the burden of which weighed heavily both on the actual participators and those who had ultimately to furnish material to the combatants. The landlord class, and a few members of the mercantile class, benefited, perhaps, in some degree, while the localisation of the war abroad undoubtedly spared this country the horrors and evils that inevitably fall on one which is the scene of action; and so much there was reason to be thankful for. Wages also continued high, and the demand for labour good, but their purchasing power varied greatly and on the whole diminished. Food reached famine prices. Wheat, which in 1792 was as low as forty-seven shillings per quarter, rose in 1801 to *one hundred and eighty shillings*, and during the whole period of the war averaged about eighty-four shillings. Taking the first twenty years of the century together, it averaged 98s. 6d. a quarter, *i.e.* "16·4 times the rate which prevailed on

[1] It is described concisely yet adequately in Mr. Spencer Walpole's "History of England from the Conclusion of the Great War," Vol. I. (Longmans, 1878).

an average for the 280 years in which there was practically no variation in money values beyond those which arose from exceptional scarcity." [1] In the same year (1801) consuls stood at 54. It is difficult to measure the amount of misery typified by these simple figures. Taxation too had grown enormously. When the war commenced we were spending twenty millions sterling, and our debt was two hundred and sixty-eight millions; when it ended the former amount had risen to over one hundred millions, and our debt far exceeded eight hundred millions! Pauperism was rapidly increasing, and our criminal code was savagely severe: the death penalty being exacted for what would now be considered almost trifling offences, or rather it was exacted or not at the discretion and caprice of untrustworthy officials.[2] A general coarseness of manners characterised all grades of society alike; swearing, drunkenness, profanity, and indecent conversation being not only frequent, but fashionable. Cock fighting, dog fighting, and other brutal and degrading sports were the ordinary pastime of the nobility and gentry; while of the amusements of the working-classes, the following description, given by one of their own number, will probably be a sufficient account.[3] "Large numbers of working people attended fairs and wakes, at the latter of which jumping in sacks, climbing greased poles, grinning through horse-collars for tobacco, hunting pigs with soaped tails, were the choicest diversions. . . . An almost general unchastity prevailed. . .

[1] "Six Centuries of Work and Wages," Vol. II., p. 494.

[2] "The Prevention and Repression of Crime," by Sir Edmund du Cane, English Citizen Series, p. 19 *et infra* (Macmillan, 1885).

[3] "Progress of the Working Classes," by J. M. Ludlow and Lloyd Jones, part i., p. 17 (Strahan & Co., 1867).

But drink was the mainspring of enjoyment. When Saturday evening came, indulgences began which continued till Sunday evening. Fiddles were to be heard on all sides, and limp-looking men and pale-faced women thronged the public-houses, and reeled and jigged till they were turned, drunk and riotous, into the streets at most unseasonable hours. On the Sunday morning the public-houses were again thronged, that the thirst following the indulgence of the night might be quenched. When church hour approached, however, the churchwardens, with long staves tipped with silver, sallied forth, and seized all the drunken and unkempt upon whom they could lay their hands, and these, being carefully lodged in a pew provided for them, were left there to enjoy the sermon, whilst their captors usually adjourned to some tavern near at hand for the purpose of rewarding themselves with a glass or two for the important services they had rendered to morality and religion."

FOREIGN AFFAIRS.

It may aid us to realise more fully the surroundings of the modern factory system in its early years, if we consider, under the two convenient headings of Foreign and Home affairs, the formative influences of an exterior kind (in addition to those of the interior) which were most obviously moulding the course of events affecting industry just then. To some extent a portion of this investigation has been anticipated in what has been said of commerce and manufacture at the commencement of the Industrial Revolution,[1] and of colonisation while it was proceeding, but before the end of the eighteenth century the close of the great colonising epoch of

[1] Chap. i.

English history had (in an imperial sense) been reached and the national mind was deeply concerned about other things. Chief among these was the Continental war already adverted to: the suppression that is in general terms of the Corsican adventurer Buonaparte, and the restoration of the balance of power in Europe. To this end, during a time comprising something like a quarter of a century, the utmost energies of the nation, and of her most prominent statesmen were persistently directed; and from this circumstance two results of an important kind followed. It followed, that the minds of those statesmen were withdrawn a great deal from home affairs; and it followed that, owing to the condition of foreign affairs, this country obtained at least that much (twenty-five years) start of other European countries in the establishment of the new modes of labour. It is upon the latter point we wish to dwell now. "It was the misfortune of the factory system," says a writer in an old number of the *Athenæum*,[1] "that it took its sudden start at a moment when the entire energies of the British legislature were preoccupied with the emergencies of the French Revolution. The foundations on which it reposes were laid in obscurity, and its early combinations developed without attracting the notice of statesman or philosopher, and the concomitant development of national wealth having been unfortunately made subservient to the wasteful necessities of war, and its results consumed, the natural connections of the labour market were disturbed in a way that added very materially to the difficulties of a new and untried

[1] I have unfortunately lost the exact reference.

phasis of social life. There thus crept into unnoticed existence a closely condensed population under modifying influences the least understood, for whose education, religious wants, legislative and municipal protection, no care was taken, and for whose physical necessities the more forethought was requisite from the very rapidity with which men were attracted to these new centres." "To such causes," the writer goes on to say, "may be referred the incivilisation and immorality of the overcrowded manufacturing towns, and some part of the still more fearful miseries of fluctuating markets and unsteady prices." That is of course in a large measure true, but there is also another moral to be drawn from these circumstances. This preoccupation was by no means a misfortune only;—at all events the preoccupation abroad was not; the quarter of a century's start thus gained was a very important commercial advantage, for it sufficed to keep this country for about three times that length of time well in front of every other in production by modern methods. Of course it will not suffice to do so always; and this is the really serious factor in the modern outcry against foreign competition, a historical factor which no quantity of mere theoretical assumption, and no special pleading, however ingenious, can obliterate. Had the great mechanical inventions, and the application of the steam-engine to manufacture, been made during a period of profound peace abroad, is it likely that we should have retained so long the practical monopoly of those aids to production? Scarcely so, as is evident from the rapidity with which they have spread since. The incidence of foreign affairs had thus a double relation to our subject; it procured England a

good start of other nations in these new methods, and it diverted public attention at home from them.

HOME AFFAIRS.

But it is perhaps doubtful after all if our philosophers and statesmen even had they not had grave foreign preoccupations would have dealt differently at that time with the factory system. There were two formative influences dominant in home affairs just then. The first was a profound alarm at the results of the French Revolution; the second the spread of a new industrial philosophy, of which Dr. Adam Smith was the English sponsor, though not the actual parent.[1] The latter of these influences is in our opinion of so important a kind that we have assigned a separate chapter to its discussion; the former most powerfully affected the tone of thought and grounds of public action at that dark period. The factory system suffered from both. Had it come into existence fifty years earlier, or later, its chances of being comprehensively dealt with would have been greater, for in the first period it would have escaped the contagion of that great fear and this new philosophy, and in the second they had both somewhat spent their force. Coming when it did, while they were rampant, the antagonism of the operatives was too often treated as criminal folly, and punished with unsympathetic rigour, a political motive was inferred behind every popular movement, however innocent of it, and the spectre of anarchy evoked alongside even the most temperate expressions of discontent. It required the persistent efforts of some of the most resolute agitators that ever lived to overcome these obstacles, and inaugurate an era of reform.

[1] Compare chap. vi.

Yet nothing is more certain than that that agitation was from the first quite free from political bias, and it has ever remained so, however it may have been used as a *party* weapon at one time or other. It was indeed curiously exempt from it; the best evidence of which is to be found in the attitude of hostility assumed towards it by contemporary movements, as, for instance, the Reform, the Free Trade, and Chartist agitations. Even such party use as was ultimately made of factory legislation was a quite extraneous one, largely dependent on the accident that the earliest leaders of it were mostly of the Tory party; and the same continues to be its position in this connection to the present hour. These aspects of the subject are, however, of too much importance to be dealt with casually, and demand a paragraph to themselves.

PARTY POLITICS AND THE FACTORY SYSTEM.

The position of party politics at the time in question was that the Tories were in power, and seemed likely to remain so for a long time to come. That party consisted chiefly of the landed nobility and gentry, either in their own persons or through their nominees; the Opposition, or Whig party, being recruited of course from the same sources, but containing within its ranks besides a greater sprinkling of the commercial class, and of the representatives of more or less independent constituencies. It was also leavened to some extent by the presence of aspiring young noblemen who wished to make a name for themselves beyond that which they inherited; and by a few other young men of ability and naturally liberal sympathies. Above all, it *was* in opposition, and its duty (according to a famous authority) was to oppose. The

question of parliamentary reform, long dormant, had been taken up by the Whigs, who for the purpose of agitating it threw themselves on the country, especially on the large manufacturing towns, which, having grown up within recent years, were unrepresented. They evoked a warm response. A class of very wealthy manufacturers had come into existence with the full establishment of the new industrial system. They were for the most part an active, able, pushing body of men, superior in every respect to those of the transitional time (though sprung from the same source) described in a previous chapter.[1] The responsibilities of conducting large establishments: no longer in out-of-the-way places, but in popular centres, in full public view, and in the light of increasing outside criticism, had sobered and chastened them.[2] The magnitude of their transactions had given them a stake in the country not second even to that of the great landowners, and they aspired in consequence to the same position in the conduct of public affairs. It was a just and laudable ambition, but very unwelcome, as may be expected, to those already in power. That it should be fulfilled meant a considerable transfer of privileges and immunities from the one class to the other, and it is no wonder therefore that an intense rivalry and jealousy sprang up between them. The Radicals, as they began now to be called,[3] thundered

[1] Chap. ii.

[2] It may at once be said too, and the reasons are obvious enough, that it was seldom in the very large factories that the worst evils of the factory system were found to exist.

[3] For the origin of the term "Radical," under date 1816, see Walpole's "History of England," Vol. I., p. 425. Mr. Dowden, ("Transcripts and Studies," p. 45), assigns its origin to 1819; Mr. Lecky, "History of England in the Eighteenth Century," Vol. III., p. 174, to 1769; and Mr. William Harris, "History of the Radical Party in Parliament," p. 8 (Kegan Paul & Co., 1885), more vaguely, to the beginning of the reign of George III.

against the privileges of land and hereditary power; the Tories replied by describing them as selfish revolutionaries. The Whigs, allying themselves with the former, eventually returned to power by their aid; the latter, casting about for some convenient weapon to belabour these new antagonists with, fixed, amongst others, on the revelations beginning now to be made regarding factories as a proper and very convenient one. It is not meant, of course, that the relative positions of the two great parties in the State were deliberately and consciously chosen on these grounds, and the above motives avowed; still less that this description is anything like a full one of the situation; least of all that there was any political impropriety in the action taken on either side. On the contrary, such were the positions they might be expected beforehand to have adopted, and philosophically and historically regarded it was of the highest consequence they did so. Had they not; had the landowners, for instance, thrown in their lot with the manufacturing capitalists: as at first there was some chance of their doing: the condition of workers to-day would certainly have been very different. Happily the alarm generated by the French Revolution did not carry them that far, and in the meanwhile their interests in other departments of national life were antagonistic. It was the interest of the landowners (or they thought so) to keep up the price of food; it was the interest of the capitalist manufacturers to bring it down. The former desired to limit the exchange of British products; the latter to enlarge it; and in the clash of these opposing interests, the claims of labour—claims that in other epochs of history have been often very summarily

disposed of—were forced into unwonted prominence and received an increasing share of recognition. And thus it came about that, for the most part unconsciously, and certainly for the most part unconfessedly, political parties shaped themselves into these relations on this question, among the many other shapes and forms they assumed, and that factory legislation came into being. From the circumstance of their doing so, however, some very pertinent results followed. The taunts of Tories directed against Radical manufacturers forced the latter into an attitude of stronger opposition to legislation than they might have otherwise assumed; they put them so completely on the defensive as to be more concerned at first about exonerating themselves than remedying the evils complained of. This was shown in a variety of ways. It was shown in the retort, fairly formulated, that the condition of agricultural labourers was at least as bad as that of factory operatives.[1] It was shown in the argument—their best argument—that the first step should be to give the working classes political rights, and let them state their demands themselves; that the representations of a few self-elected spokesmen not of their class could not be accepted as genuine; and shown in the unreasonable extent to which they cited abstract doctrinal theories as of universal application in practical life. Their adversaries replied in kind. The Reform movement was represented as a device to draw off the attention of the people from their real needs, and

[1] How bitterly Lord Shaftesbury felt this taunt, and how unjust it was in his case, one reads in his biography:—"Life of Lord Shaftesbury," by Edwin Hodder, Vol. I., p. 519 (Cassell & Co., 1886). For a powerful statement of the grounds on which it was made, see Miss Martineau's "History of the Peace," Vol. IV., pp. 206-8 (G. Bell & Sons, 1878).

amuse them with a phantom of liberty, which was really no liberty at all, but economic slavery, and even the Free Trade movement came under a similar suspicion. In the event, the evils of the new system were curbed principally by the interposition of Conservatives; but all attempts to include agricultural labourers under similar legislation came to nought, and they have only at length received partial protection within quite recent years by means of an incidental and indirect enactment.[1]

PUBLIC HEALTH.

The establishment of the modern factory system came at a time when very little regard was paid to public health in England, and it certainly did little at first of its own initiative to bring about much improvement in that direction. Its direct influence was indeed all of the opposite kind. Nevertheless, by its indirect influence, it greatly advantaged it. The attention repeatedly drawn to the terribly insanitary condition of the early factories aroused a popular interest in sanitation generally, and as each new Commission was appointed, and brought an ever-increasing number of industries under inspection, not only was the area of actual interference widened, but the interest in the subject was deepened and stimulated. This increased concern for public health was much assisted by the great discoveries in medical science which distinguished this same epoch, and that both did not fail of effect can be easily demonstrated by a brief array of figures. In 1780 the annual mortality of England and Wales was 1 in 40; in 1801 it was 1 in 48; and in 1830, 1 in 58. At the same time (1830) the annual mortality of Manchester and Salford was 1 in

[1] That is, so far as children are concerned, by the Elementary Education Act, 1876 (see chap. ix.).

49; "a low rate," says Porter,[1] "if we take into account the fact that in manufacturing towns children are brought together in a much greater proportion than the average of the Kingdom." But that the sanitary condition of this great centre of industry was nevertheless extremely shocking then we have unequivocal proof. The facts are described with great power in a pamphlet by Dr. James Phillips Kay (afterwards Sir James Kay-Shuttleworth), published in 1832,[2] in which moreover a curious and very interesting account is given of the aspect of the city itself and the habits of the operatives congregated there, affording a striking description by a competent eye-witness of the environment of the new labour system in one of its chosen homes. "The township of Manchester," writes Dr. Kay (p. 20), "chiefly consists of dense masses of houses, inhabited by the population engaged in the great manufactories of the cotton trade. Some of the central division are occupied by warehouses and shops, and a few streets by the dwellings of the more wealthy inhabitants, but the opulent merchants chiefly reside in the country, and even the superior servants of their establishments inhabit the suburban townships. Manchester, properly so called, is chiefly inhabited by shopkeepers and the labouring classes. . . . . The population engaged in the cotton factories rises at five o'clock in the morning, works in the mills from six till eight o'clock, and returns home for half an hour or forty minutes to breakfast. This meal generally con-

[1] "Progress of the Nation," p. 27.

[2] "The Moral and Physical Condition of the Working Classes Employed in the Cotton Manufacture of Manchester," by James Phillips Kay, M.D. (London: Ridgway, 1832).

sists of tea or coffee, with a little bread. Oatmeal porridge is sometimes, but of late rarely, used, and chiefly by the men; but the stimulus of tea is preferred, and especially by the women. The tea is almost always of a bad and sometimes of a deleterious quality, the infusion is weak, and little or no milk is added. The operatives return to the mills and workshops until twelve o'clock, when an hour is allowed for dinner. Amongst those who obtain the lower rates of wages this meal generally consists of boiled potatoes. The mess of potatoes is put into one large dish; melted lard and butter are poured upon them, and a few pieces of fried fat bacon are sometimes mingled with them, and but seldom a little meat. Those who obtain better wages, or families whose aggregate income is larger, add a greater proportion of animal food to this meal, at least three times in the week; but the quantity consumed by the labouring population is not great. The family sits round the table, and each rapidly appropriates his portion on a plate, or they will all plunge their spoons into the dish, and with an animal eagerness satisfy the cravings of their appetite. At the expiration of an hour they are all again employed in the workshops or mills, where they continue until seven o'clock or a later hour, when they generally again indulge in the use of tea, often mingled with spirits, accompanied by a little bread. . . . . The population nourished on this aliment is crowded into one dense mass, in cottages separated by narrow, unpaved, and almost pestilential streets, in an atmosphere loaded with the smoke and exhalations of a large manufacturing city. The operatives are congregated in rooms and workshops during twelve hours in the day, in an

enervating heated atmosphere, which is frequently loaded with dust of filaments of cotton, or impure from constant respirations, or from other causes. They are engaged in an employment which absorbs their attention, and unremittingly employs their energies. They are drudges who watch the movements, and assist the operations, of a mighty material force, which toils with an energy ever unconscious of fatigue. The persevering labour of the operative must rival the mathematical precision, the incessant motion, and the exhaustless power of the machine." It would be easy to compare with this eloquent account many others equally distressing,[1] but no good purpose would be served by doing so, the more especially as much matter of a similar kind must engage our attention as we proceed. It will suffice to take the environments of factory labour thus described as fairly typical of what might be observed in any other large town at that time, and to console ourselves with the belief that they are not such as are to be observed in factory towns any longer. For such miserable conditions of human life where they do still exist we look now rather to cities, or parts of them, beyond the manufacturing radius as commonly understood.

EDUCATION.

The condition of popular education may best be described by the simple statement that there was practically no such thing.[2] Attempts had been made occasionally to bring instruction, under special conditions, to the masses; and

[1] They are collected by Engels. "The Condition of the Working Class in England in 1844" by Frederick Engels; Eng. Trans. (William Reeves, 1888).

[2] No government grant of money for public education existed in Great Britain previous to 1840.

there were of course higher schools and colleges, but such attempts were always partial, and mostly intermittent, and the results poor at the best. As early as 1698 charity schools for the teaching of destitute children had been introduced, but were little availed of, and in 1781 Robert Raikes, a master printer of Gloucester, established the first Sunday School. In 1797 Dr. Bell, and in the next year Mr. Joseph Lancaster, brought out systems of instruction, which were taken up and put in operation by the National School Society and the British and Foreign School Society respectively; and in 1818 Lord Brougham and a few other prominent persons established the first infant school (at Brewers Green, Westminster). These efforts constituted nearly all that was done however till factory legislation took the matter in hand, and led the way to a wider conception of national duty in this respect, and to a far more skilful and resolute performance of it than had yet been known.

RELIGION AND THE FACTORY SYSTEM.

It remains to say a few words on a subject of greater delicacy and even more importance. It has often been charged against the modern factory system that it was of an irreligious tendency, and few speakers or writers about in the early days did not lay special emphasis on this point. It has always seemed to us that in this matter there was a considerable element of misconception; and although it is one on which we desire to touch—and shall touch throughout this book—very lightly, it is also one which assuredly should not be quite ignored. We will endeavour then to give here, in the fewest words possible, some idea of its early environment on this side too.

The Industrial Revolution occurred almost coincidentally with a great revival of religious feeling in England, at whose head were Whitfield and the two Wesleys. Their teaching was devout and earnest, but largely democratic in tone, and not therefore of a kind to recommend itself greatly to already established authorities and institutions. In process of time their followers came to be regarded (against their wishes at first) as Dissenters, and outside the pale of the Establishment, and as converts accrued, the divergence between the old school of thought and the new increased to bitterness. It was just at this time that the factory system was making a definite settlement here. "It was in many respects a movement of disintegration, breaking the ties of sympathy between class and class, and destroying the habits of discipline and subordination that once extended throughout the whole community."[1] The factories sprang up in parts of the country generally remote from any recognised place of worship, where the Church had not therefore the immediate means of offering accommodation to worshippers, and commonly lost sight of them. Now it was precisely in such out-of-the-way places, in the fast-rising mining and factory villages, that the new preachers found their most congenial sphere of labour (and they have never lost their hold upon them since), and it so came about that the new factories and new preachers were blamed for drawing congregations away from their old parish churches, and lack of religion too much confounded with the non-appearance of former worshippers there.

[1] "History of England in the Eighteenth Century," Vol. II., chap. ix. This chapter contains an admirable and succinct account of the rise and progress of English Methodism.

But in reality, and so far as religion can be tested by attendance at religious services (and with no other aspect of it are we at all concerned) it had not suffered by this transference. The number of persons attending religious services in factory districts was not, as it turned out, lower than in non-factory districts, but actually and proportionally higher. This was clearly proved in a series of letters addressed by Mr. Edward Baines to Sir Robert Peel in 1843, published afterwards in pamphlet form.[1] He showed that, taking the four typical counties of Lancashire, Yorkshire, Cheshire, and Derbyshire, the proportion of sittings in church and chapel to the population was much greater then than—for instance—in London (45 per cent. to 36), and the proportionate advance in the provision of new sittings during the typical factory period 1801 to 1841 far more rapid; and that the like held good of other districts. No doubt the scenes we have described as occurring in factory towns were of a kind to distress even unprejudiced minds, and provoke deep anxiety, but these were not necessarily a result of factory labour, but of the degrading surroundings among which it was first planted, and the ill-regulated form it was permitted to assume. They did not develop with it, but decreased with its development. Further, was not this religious fervour itself (which within the Church gradually took the name of the "Evangelical Movement" and happily spread at length to all denominations) perhaps the real occasion of the outcry? But for it might not that moral and spiritual degradation have passed unnoticed as it had for so

[1] "The Social, Educational, and Religious State of the Manufacturing Districts, with Statistical Returns," by Edward Baines (Simpkin and Marshall).

long done before? The epoch immediately preceding this had been one of almost complete religious indifference. "Never," says Mr. Green,[1] "had religion seemed at such a low ebb." . . . "But there now appeared a new moral enthusiasm, which rigid and pedantic as it often seemed, was still healthy in its social tone . . . and which has never ceased from that day to this to remedy the guilt, the ignorance, the physical suffering, and the social degradation, of the profligate and the poor." It was the transfer of rural labourers from old surroundings that induced then, we suggest, an erroneous belief in their irreligion, when all that had really happened was that they had passed into other phases of belief; and the new-born enthusiasm of pious men attached this stigma to the factory system, when what were properly culpable were the environments within which it was located, and the carelessness that permitted it to settle among them under the guidance of no higher motives than commercial emulation and the mere greed of gain.

[1] "Short History of the English People," chap. x., sec. 1.

CHAPTER V.

THE FACTORY CONTROVERSY.

The Terms of the Controversy—Infant Labour—The Poor Law—Parish Apprentices—Robert Blincoe—The First Reformers—New Lanark Mills—Robert Owen—Course of the Controversy—Richard Oastler—The Yorkshire Agitation—M. T. Sadler: Demand for a Ten Hours Bill—Other Leaders: G. S. Bull—Lord Ashley—John Fielden—J. R. Stephens—Literature of the Factory Controversy.

THE TERMS OF THE CONTROVERSY.

THE establishment of the modern factory system was accompanied by a fierce controversy, the echoes of which have not yet ceased to reverberate, and the end of which has certainly not yet been reached. The terms of that controversy are in their nature so wide and far-reaching that it is difficult to state them in few words. They include in their full scope the whole area of productive industry in its relation to labour, and the whole field of moral and political obligation connected therewith. They embrace, to quote the words of the Duke of Argyll,[1] "one of the most difficult problems in metaphysical analysis. On the one hand Freedom was asserted for the Will under conditions and in a sense in which it did not exist. On the other hand, Freedom was denied to the Will in a sense in which the instincts of humanity testified to its presence, and to the possi-

[1] The "Reign of Law," by the Duke of Argyll, People's Edition, p. 356 Strahan & Co., 1871).

bility of its being exerted with effect"; and they require in addition, for their proper historical understanding, some sort of summary of the manner in which this argument was originated and conducted during the period under review. Simply stated, the question is of the extent to which any human being is entitled to exact labour from another, and of his responsibilities in that regard. To discuss it in such terms as the above might well furnish material in itself for a complete and very voluminous work, nor could matter more worthy of full and serious treatment be easily found among the subjects of modern—and especially of modern English—literature. Unfortunately, for some reason not easily explicable, we possess no such great work, nor anything approaching it. We possess even no comprehensive and consecutive essay on the subject.[1] Some recent historians[2] have bestowed indeed a share of their attention on its political connections, and a few native and some foreign philosophical writers (conspicuous amongst whom is Marx) have brought their powerful intellects to bear on certain of its characteristic features, but the treatment it has received even at their hands has been mostly incidental and partial, and generally subsidiary to other issues. A reasonably full statement of the grounds and nature of the debate on its own account, and of the course it took, is still wanting.

In this difficulty it will be our effort to bring the principal features of that controversy before our readers

[1] I can hardly except Mr. Jevons' "The State in Relation to Labour," English Citizen Series (Macmillan & Co., 1885), for it was not of course written to fulfil the above conditions.

[2] Mr. Spencer Walpole and Mr. Lecky, and in a less degree Miss Martineau and Mr. Green. But the pioneer was Charles Knight.

in some narrower, while not wholly inadequate way, so that whilst the wider issues are not quite lost sight of they be held in reserve, shall come up for consideration only as they actually presented themselves, and the continuity of the story be retained. We shall deal in this chapter with its earlier stages only, from the extra-judicial or popular side; narrating how the complaints arose, the nature of the evils complained of, and something of the methods and manners of those who led the attack. In the next it will be sought with no less solicitude to present the grounds and nature of the defence. We shall endeavour there, so far as a very meagre treatment will allow, to display the historical process and essential quality of the arguments by which these facts and those efforts were for long confronted, and which even yet remain in the minds of many persons unharmonised or at variance with them. Up to this point the story will be principally confined to what occurred outside the walls of parliament. The succeeding chapter will trace more particularly the results of the struggle there up to the passing of the first efficient Factory Act. By this means it is hoped the early phases of the conflict will be fairly represented and its true nature brought gradually into view. It will be seen what was the germ of many wider issues that afterwards became prominent, how that germ was nurtured, and the character of its first fruits.

INFANT LABOUR.

The earliest form in which this great question of modern times, which in so many directions still remains unanswered, came up for discussion, was in relation to infant labour. Infant labour was far from being a new thing in manufacture. It was greatly availed of under both the older

factory system and the domestic system,[1] and had even been regarded under the former as a matter for public congratulation. Macaulay relates how in the 17th century, "at Norwich, the chief seat of the clothing trade, a little creature of six years old was thought fit for labour," and that the circumstance was a cause of "exultation" to writers of the time—even those esteemed "eminently benevolent—";[2] and Defoe ("Tour in the Eastern Counties") tells with evident satisfaction how, a century later, "the very children (there) *after four or five years of age* could everyone earn their own bread."[3] We have ourselves instanced a factory in the west of England where in Tudor times child labour was much employed, and writing in 1641, Richard Braithwaite, a gentleman of Kendal, speaks in a similar strain of the woollen industry of the north:—"Amongst which," he says, "I cannot be unmindful of the diligence of the town of Kendall, and worthy care which they have to see *their very young children put to worke*, being a labour which required no great strength, to wit, woolworke."[4] It has been often made a charge against Pitt that he pointed to this expedient at a still later time as a means of increasing the national revenue, and the author of "The History of the Factory Movement,"[5] has traced this charge to its source, and exposed, he thinks, its baselessness. "It is found," he says, "in a translation of 'The People,' as follows:—In the height of the great duel between England

[1] Chap. ii., pp. 50-82.

[2] "History of England," chap. iv.

[3] Compare chap. ii. p. 50.

[4] Quoted from the *Westmoreland Gazette* of August 20th, 1887.

[5] That is the gentleman who wrote under the name of "Alfred," see last chapter, p. 154, *note*.

and France, when the English manufacture represented to Mr. Pitt that the rise in the rate of wages incapacitated them from paying the taxes, he pronounced the terrible words, 'Take the children.' Those words weigh heavily upon England as a curse. Ever since that hour the race of its men has been deteriorating. This people, heretofore so athletic, is growing nerveless and enfeebled. . . . . They listened to Mr. Pitt. *They took the children.*" On what occasion was it, he asks, that Pitt uttered these words? Now "there is a passage in a speech delivered by that minister on February 12th, 1796," which "by misapprehension," he believes, may have led to this inference, and he quotes it. "Mr. Whitbread having in the House of Commons moved the second reading of the Labourers' Wages Bill," Pitt spoke as follows:—"Experience has already shown how much could be done by the industry of children, and the advantage of early employing them in such branches of manufacture as they were capable to execute. The extension of schools of industry was also an object of national importance. If anyone would take the trouble to compute the amount of all the earnings of the children who are educated in this manner he would be surprised when he came to consider the weight which their support by their own labours took off the country, and the addition which, by the fruits of their toil, and the habits to which they were formed, was made to its internal opulence;"—and the writer concludes from these words that it was to employment in industrial schools, and not in factories, that Pitt alluded. But is it quite certain that this interpretation is the correct one? In the text of the

speech as quoted, Pitt is made to speak of employment in manufacture first, and "also" of schools of industry; and the training of the latter is apparently to be preparatory to occupation in the former. It is by no means so clear then that he did not hold, as so many preceding and succeeding statesmen have done, that the economic consideration in this matter was the preponderant one, even though he may never have used the words attributed to him.

At all events it was just about this time that infant labour was at its greatest height in the newly erected factories; the reasons being urgent and various. In the first place it was of course much cheaper; whilst generally as well adapted to the new machinery. "The simplicity of the first machines for spinning, and their small size," says Mr. Gaskell, "fitted them for being tended by children." But in the second place, children were in many instances *better* fitted for tending such machines than grown people, even if their labour could be obtained at the *same* price. There were motions, now automatic, to be performed by several of them, but requiring then some trifling assistance to complete, such as could be afforded by unskilled as easily as by skilled hands, and by the nimble hands of children best of all. The early factory buildings too were small, and very crowded, and little bodies could slip into positions and through interstices about them where bulkier ones would have a difficulty. Another advantage is pointed out by Mr. Grant,[1] and is similar to that (already noticed) which machinery itself conferred on capital.[2] "The workmen were refractory, and as the

[1] "History of Factory Legislation," by Philip Grant, p. 7 (Heywood, Manchester, 1866).

[2] Compare p. 98.

employment of water, and the improvement of the machinery, made the masters almost independent of the adult operatives, children were employed in their stead." There was also, perhaps, an absolute scarcity of adult labour at this time, owing to foreign war and a distaste for factory life; and to such an extent at all events did these and other causes operate that an employer who gave evidence somewhat later before a committee of the House of Commons[1] actually panegyrised the steam-engine, for, amongst other things, restoring adult labour to the mills. "By the application of the power of waterfalls and of ingenious mechanism adults were superseded by children, whose wages were lower and who soon acquired a great dexterity." But "as the children grew to be adults, notwithstanding their acquired expertness, they became too big for the machinery and their labour too expensive" . . . . "Had this method proceeded," he argued, "and the business continued to extend, a numerous population of children would have been formed and employed in remote situations without an adequate demand for their labour when adults." But whence did these children come? Not —as we have seen[2]—from the ranks of the domestic manufacturers whom the new methods of production were superseding in their industry; not from the districts where those new methods were most practised. Whence then? The answer to that question opens up a dark page in the history of English industry, which in its turn is very nearly related to another gloomy but most important section of our national story concerned

[1] Quoted by Gaskell.
[2] P. 154.

about the care and treatment of the poor. On this wide subject then a few preliminary words seem necessary.

THE POOR LAW.

The foundation of the modern Poor Law dates from the age of Elizabeth, but the origin of the requirements which it seeks to fulfil may be traced from the break-up of the guilds and dissolution of the religious houses, both of which occurred nearly a century earlier. Whilst those great corporations continued they took upon themselves the charge of persons destitute or impotent; when they were swept away that duty was undertaken by the State. But the Elizabethan poor law did something more than this. It not merely provided for the relief of the impotent poor, by means of a compulsory rate, but provided materials from the same source for the able-bodied to be "set to work" upon, and required them to work at and with those materials. It was thus in its inception a legislative provision against idleness as well as against indigence. This great Act was passed in 1601, and remained with some few alterations (principally of an administrative kind) the law of the country till 1722, when another forward step was taken. This was the introduction of the workhouse test, the empowering parishes, that is, to unite and build a *house*, wherein such work should be performed, and to refuse relief to all (able to work) who would not enter it. It is not known for certain how many parishes took advantage of this provision, though it is certain that a considerable number did so at first, while many more refused to burden themselves in that manner. Sir Frederick Eden quotes with approval[1] a work "published in 1725 and republished in 1732," giving an

[1] "State of the Poor," Vol. I., pp. 269-89.

account of upwards of a hundred of such establishments in different parts of the country, and there were certainly many existent at the beginning of the modern factory system. It was most likely one such that is described by Dyer in the poem of "The Fleece" to which allusion has been made;[1] and had others been equally well described some useful and much-needed light would probably have been shed on a very obscure subject. The form which these provisions took in the case of children was that of apprenticeship. This system of employment had been dealt with by preceding statutes, in particular by the 7th Henry IV. and the 2nd Henry VII.:—the latter with especial reference to the needs of the "worsted weavers and clothiers of Norwich":—but these were laws made mostly in restraint of the option of parents in sending their children to employment. By the Elizabethan poor law orphans and indigent children were apprenticed to the parishes to which they belonged, and were to be employed there or elsewhere at the discretion of the parish authorities; and a subsequent statute (7th George III.) regulates with much care the fee to be paid and the time to be served when thus put out. It was from this stock then; one which at the latter end of the eighteenth century was germinating with much energy; that the great supply of juvenile labour demanded by the new factories was principally procured.

THE PARISH APPRENTICES.

The story of the parish apprentices in this connection has been often told. It is told by "Alfred," simply and truthfully; with many added painful details by Mr. Gaskell; with

[1] P. 72; also "Introduction to a History of the Factory System," p. 369.

philosophic insight by the Duke of Argyll ("Reign of Law," chap. vii.); by Mr. Fielden ("Curse of the Factory System")[1] after lengthened personal investigation; and very fully in the truly appalling "Memoir of Robert Blincoe."[2] It is told also in the speeches and evidence of several contemporary observers, and at second hand in many places. We shall make a selection from among the earlier of these sources of information for reproduction here; the evidence adduced before parliamentary committees will be dealt with afterwards.[3] It is a harrowing tale upon which we shall not unnecessarily dwell, though neither shall we shrink from telling it with the fulness the occasion calls for. It is, in the first place, absolutely necessary to the purpose of this work to do so. But in the second place, it is of great and unceasing importance that that story be kept in memory; that it should never be suffered to become extinct; as a pitiful and most terrible warning against the preposterous doctrine, born of modern modes of thought, that human affairs can be entrusted to impulses of mere cupidity without shocking and degrading consequences.

The first quotation to be made brings the exterior and interior aspects of our subject within the compass of one rapid survey, in which its history, philosophy, and even topography, are found all united. "The Factory System," writes the Duke of Argyll,[4] "had begun under the old motive power of water; and here it is very curious to observe how each stage in the progress of the dis-

[1] "The Curse of the Factory System," by John Fielden, M.P. (Halifax, 1836).

[2] *Infra*, p. 189.

[3] Chap. vii.

[4] "Reign of Law," p. 347.

covery, had, by way of natural consequence, its own special effect on the conduct and the wills of men." He relates, accordingly, the circumstances under which a system of apprenticeship became necessary, which we have detailed elsewhere.[1] "And now for the first time appeared some of the consequences of gregarious labour under the working of Natural laws, and under no restrictions from Positive Institution. The mill-owners collected as apprentices boys and girls, and youths, and men, and women of all ages. In very many cases no provision adequate, or even decent, was made for their accommodation. The hours of labour were excessive. The ceaseless and untiring agency of machines kept no reckoning of the exhaustion of human nerves. . . . A whole generation were growing up under conditions of physical degeneracy, of mental ignorance, and of moral corruption." The actual procedure is described by "Alfred."[2] "Under the operation of the factories apprentice system," he writes, "parish apprentices were sent, without remorse or enquiry, to be 'used up' as the cheapest raw material in 'the market.'" . . . . "The mill-owners communicated with the overseer of the poor, and when the demand and supply had been arranged to the satisfaction of both the contracting parties, a day was fixed for the examination of the little children, to be inspected by the mill-owner or his agent. Traffickers contracted with the overseers for removing their juvenile victims to Manchester, or other towns. On their arrival, if not previously assigned, they were deposited in dark cellars, where the

[1] P. 87.

[2] "History of the Factory Movement," Vol. I., chap. ii.

merchant dealing in them brought his customers," and where "the mill-owners, by the light of lanterns being enabled to examine the children, their limbs and stature having undergone the necessary scrutiny, the bargain was struck and these poor innocents were conveyed to the mills." The treatment they received afterwards "depended entirely on the will of their masters." . . . . "In very many instances their labour was limited only by exhaustion after many modes of torture had been unavailingly applied to force continued action" . . . . and "in brisk times their beds, such as they were, were *never cool*, (for) the mills were working night and day, and as soon as one set of children rose for labour the other set retired to rest" . . . . "Discrimination of sexes was not regarded; vice, disease, and death luxuriated in those receptacles of human woe. We dare not trust ourselves"—he continues—"to write all we know on this subject." Mr. Gaskell is not so discreet, and devotes a chapter (chap. vii.) of his interesting book to a particular discussion of the physical evils that ensued, while the moral ones are dealt with throughout in a manner almost too pronounced and painful. We have quoted from it at some length already, and will now turn elsewhere. "The custom," writes Mr. Fielden,[1] "was for the master to clothe his apprentices and to feed and lodge them in an apprentice house near the factory; overseers were appointed to see to the works, whose interest it was to work the children to the utmost, because their pay was in proportion to the quantity of work that they could exact. Cruelty was, of course, the consequence; and there is abundant

[1] "Curse of the Factory System," p. 10.

evidence on record, and preserved in the recollections of some who still live, to show that in many of the manufacturing districts, but particularly I am afraid to the guilty county (Lancashire) to which I belong, cruelties the most heartrending were practised upon the unoffending and friendless creatures who were thus consigned to the charge of master manufacturers; that they were harassed to the brink of death by excess of labour, that they were flogged, fettered and tortured in the most exquisite refinement of cruelty; that they were, in many cases, starved to the bone while flogged to their work, and that even in some instances they were driven to commit suicide to evade the cruelties of a world in which, though born to it so recently, their happiest moments had been passed in the garb and coercion of a workhouse." Let it be remembered that these words were written after no less than three parliamentary committees had reported on the nature and reality of the evils alleged, and that the proofs of them are all to be found in those reports.

ROBERT BLINCOE.

Perhaps the most terrible evidence, however, and certainly that which aroused the greatest horror at the time, is contained in the perfectly well authenticated narrative of Robert Blincoe. This narrative was first made public in a memoir contributed to Vol. I. of "The Lion," a periodical printed and published in 1828, by Richard Carlile, at 62 Fleet Street, London. It is written by a Mr. Brown, and was afterwards issued separately. The circumstances that originally induced the author to undertake the writing of it are thus described by himself: "It was in the spring of 1822, after having devoted a considerable time to the investigating of the

effect of the manufacturing system, and factory establishments, on the health and morals of the manufacturing populace, that I first heard of the extraordinary sufferings of R. Blincoe. At the same time I was told of his earnest wish that those sufferings should, for the protection of the rising generation of parish children, be laid before the world. Thus assured I went to enquire for him, and was much pleased with his conversation. . . . . In his manners he appeared remarkably gentle; in his language temperate; in his statements cautious and consistent. After I had taken down his communications I tested them, by reading the same to other persons with whom Blincoe had not had any intercourse on the subject, and who had partaken of the miseries of the same hard servitude, by whom they were in every point confirmed."[1] Now for the story. Robert Blincoe was an orphan, who had been received at the age of four years into the St. Pancras Workhouse. When seven, namely on the 15th August 1799, he was apprenticed for a term of fourteen years to serve at a cotton mill near Nottingham, whither he was sent with a large number of other children, male and female, about eighty in all. The story tells of the ridiculous hopes purposely fostered in their minds of the treatment they should receive there, and of the fearful awakening that followed. "It was gravely stated to them that they were all when they arrived at the cotton mill to

[1] In No. 21 of "The Poor Man's Advocate," Manchester, June 9th, 1832, a portrait of Robert Blincoe is given, together with the following particulars about him at that date. He "is deformed in his limbs, and incapable of hard work. Both his knees are crooked, and he only stands five feet and half an inch in height. . . . . Is now about 35 or 36 years of age, and resides at 19, Turner Street, Manchester, where he keeps a small grocer's shop." The engraving corresponds to this description.

be transformed into ladies and gentlemen; that they would be fed on roast beef and plum pudding—be allowed to ride their master's horses and have silver watches, and plenty of cash in their pockets." Alas, for these bright young dreams. We are particularly informed that Blincoe was not treated in this mill "with that sanguinary and murderous ferocity" that he experienced in others, but, nevertheless, "from morning till night he was continually being beaten, pulled by the hair of his head, kicked or cursed, as were the other children. . . . . Being too short of stature to reach to his work standing on the floor, he was placed upon a block; but this expedient only remedied a part of the evil, for he was not able by any possible exertion to keep pace with the machinery. In vain the poor child declared it was not in his power to move quicker. He was beaten by the overlooker with great severity, and cursed and reviled from morning till night, till his life became a burden to him and his body was discoloured by bruises." The food, the sleeping accommodation, and general arrangements of the apprentice house were of a nauseous and unwholesome kind, to a shocking and even terrible extent. The ordinary hours of work were fourteen, but sometimes extended to *sixteen*. They were occasionally even longer! Blincoe served four years of his apprenticeship at this factory; when it stopped working; and he was transferred, with a number of other apprentices, to another one.[1] It was a most unfortunate change for him and them. The cruelties

[1] In the original narrative all names of persons and places are given in full, but I forbear to quote them. No good object would be served by doing so now, and a contrary course might easily give pain to quite innocent persons.

that were practised at this next mill were, as the biographer says, well-nigh *incredible.* We omit the more disgusting and more usual ones, and will mention only some that were distinguished by exceptional barbarity and ingenuity. One practice of the overlookers was to "throw rollers, one after another, at the poor boy, aiming at his head, which of course was uncovered while at work, and nothing delighted the savages more than to see Blincoe stagger, and the blood gushing out in a stream. So far were such results from deterring the monsters that, long before one wound had healed, similar acts of cruelty produced others, so that on many occasions his head was excoriated and bruised to a degree that rendered him offensive to himself and others, and so intolerably painful as to deprive him of rest at night, however weary he might be. . . . . Being reduced to this deplorable state, some brute . . . used to apply a pitch cap or plaister to his head, and after it had been on a given time, and when its adhesion was supposed to be complete, the *terrible doctor* used to lay forcibly hold of one corner and tear the whole scalp from off his head at once." The same (or another) ruffian was accustomed when Blincoe could not or did not keep pace with the machinery, to "tie him up by the wrists to a cross beam and keep him suspended over it till his agony was extreme." "To avoid the machinery he had to draw up his legs every time it came out or returned. If he did not lift them up he was cruelly beaten over the shins, which were bare, nor was he released till growing black in the face, and his head falling over his shoulder, the wretch thought his victim was near expiring." To lift the apprentices up by the ears, shake them violently, and then dash them upon

the floor with the utmost fury, was one of many inhuman sports in which the overlookers appeared to take much delight, and, the more effectually to torment their victims, they "allowed their thumb and fore-finger nails to grow to an extreme length, that when they pinched their ears they might make their nails meet!" Another practice "consisted in filing the apprentices' teeth." Blincoe was once constrained to open his mouth to receive this punishment and X— (the name is given) applied the file with great vigour. Having punished him as much as he pleased, the brute said with a sneer, "I do this to sharpen thy teeth that thou mayst eat thy Sunday dinner the better." . . . . Among the most singular punishments inflicted on him was that of "screwing small hand-vices of a pound weight, more or less, to his nose and ears, one to each part; and these have been kept on as he worked for hours together." . . . . "Sometimes he has been commanded to pull off his coat and get into a large crib, when the savage, being sure of his mark, and that not a blow would be lost, used to beat him till he was tired." . . . . "Another of their diversions consisted in tying Blincoe's hands behind him and one of his legs up to his hands. He had then only one leg left free to hop upon, and no use left of his hands to guard himself if he chance to fall, and if Blincoe did not move with activity the overlooker would strike him a blow with his clenched fist, or cut his head open by flinging rollers. If he felt he was liable to have his leg or arm broken or dislocated." Nor were these exceptional instances of cruelty practised upon one unfortunate boy. Quite the contrary. "All the punishments he suffered were inflicted on others, and in some

cases even to a worse degree than on himself. He even considers he came off tolerably well"—the story says—compared with his associates,[1] "many of whom he believes in his conscience lost their lives and died at the apprentice house, from the effects of hard usage, bad and scanty food, and excessive labour." He mentions in particular the case of another poor boy—but the details are too revolting for these pages. We will quote instead the story of a girl, whose despair brought her at all events relief at last. "She was a handsome-looking girl about the age of twenty years." . . . . "Being driven to desperation by ill-treatment" she "took the opportunity, one dinner-time when she was alone, and when she supposed no one saw her, to take off her shoes and throw herself into the dam at the end of the bridge next the apprentice house. Someone passing along and seeing a pair of shoes, stopped. The poor girl had sunk once, and just as she rose above the water he seized her by the hair. She was nearly gone, and it was with some difficulty her life was saved. When Mr. —— (the owner of the factory) heard of this, *being afraid the example might be contagious*, he ordered . . . a journeyman spinner who had been apprenticed there to take her away to her relations, and thus she escaped." (How awful is the suggestion conveyed in the italicised words!) It does not appear, however, that suicide was very common among the girls, though other efforts at escape were; and with respect to these latter we are told that young women "sus-

[1] In one instance he uses the expression that he was "treated like a king compared with some of them." Certainly kings have sometimes been treated very badly, but imagination itself is at fault to picture how the subjects of such a one as this should needs be treated to have fared worse than he.

pected of intending to run had irons rivetted on their ankles, reaching by long links and rings up to their hips (!), and in these they were compelled to walk to and from the mill to work, and to *sleep*." A smith was kept on the premises, one of whose recognised duties was thus to fetter the apprentices when ordered. It may be imagined that this official was of a sufficiently unimpressionable kind, yet so horrified would he become at times at the shrieks that reached his workshop, which was on the ground floor—from the rooms above, that he would hammer at the ceiling with violence "to interrupt if possible the devilish work." With respect to so terrible a charge as actual murder we would speak with all reserve, and should prefer to believe it to be in its constructive form (as a consequence of other actions) rather than in its ordinary sense that it is insinuated here, though parts of the text will scarcely bear this interpretation. The motives that might impel to it in the case of female apprentices were, we may judge, different sometimes from mere cruelty; and they have been more than hinted at already.[1] But in its indirect form, as the natural consequence of ill-treatment, insufficient nourishment, and overwork a few more details must be added, which will also serve to bring the ordinary arrangements of the factory of that time more clearly into view. "The apprentices had their breakfast generally of water-porridge . . . which they took in the mill. The breakfast hour was eight o'clock, but the machinery did not stop, and so irregular were their meals it sometimes did not arrive till ten or eleven o'clock." It must be remembered that they rose at five! "At other times

[1] Chap. iv. Mr. Gaskell goes into them very fully.

the overlookers would not allow the apprentices to eat it, and it stood till it grew cold and covered with flue." . . . . "Forty minutes were allowed for dinner, of which time full one half was absorbed in cleaning the frames. Sometimes the overlookers detained them in the mill the whole dinner time, on which occasions a halfpenny was given, or rather promised. On these occasions they had to work the whole day through, generally *sixteen hours without rest or food.*" On Saturday they commonly worked till midnight; and *sometimes till six on Sunday morning.* "Bad as the food was, the cookery was still worse. The most inferior sort of Irish-fed bacon was purchased for the consumption of these children, and this, boiled with turnips, put into the water, I cannot say without washing, but certainly without paring." . . . . . "Next, the rusted bacon was portioned out with the boiled unpared turnips. There was generally a large quantity of broth to spare, which often became very fetid before it was cold. Into this stuff, no better than hog's-wash, a few pails more of water were poured, and some meal stirred in, and the disgusting mess was served out for supper, or the next day's breakfast, as circumstances required. Blincoe declared that the stench of this broth was often so powerful as to turn his stomach, and yet, bad as it was, keen hunger forced him to eat it." The comparison here with hog's-wash is no mere rhetorical figure. "The store pigs and the apprentices used to fare pretty much alike,"—whilst—"the fatting pigs fared luxuriously compared with them." These "were often regaled with meal balls made into dough and given in the shape of dumplings," and a pretty story (of its kind) is told in connection with this practice.

"Blincoe and those who were in the part of the building contiguous to the pig-sties used to keep a sharp eye upon the fatting pigs and their meal balls, and as soon as they saw the swine-herd withdraw, he used to slip down stairs, and stealing slyly towards the trough, plunge his hand in at the loop-holes, and steal as many dumplings as he could grasp." But the pigs, "though generally esteemed the most stupid of animals, soon hit upon an expedient that baffled the hungry boys; for the instant the meal balls were put into their troughs they voraciously seized them and threw them into the dirt out of their reach. Nor this alone; made wise by repeated losses, they kept a sharp look out, and the moment they ascertained the approach of the half-famished apprentices they set up so loud a chorus of snorts and grunts it was heard in the kitchen, when out rushed the swine-herd armed with a whip, from which combined means of protection for the swine this accidental source of obtaining a good dinner was soon lost."

Owing to these, and many like sources of sickness and disease, it is not surprising to learn that "numerous contagious fevers" arose in this mill, nor "that the number of deaths should be such as to require frequent supplies of parish children to fill up the vacancies." Blincoe "had known as many as forty boys sick at once, being a fourth part of the whole number employed in the mill," and "none were considered sick till it was found impossible, by menaces or corporal punishment, to keep them to their work." It became necessary to bury those who died in various churchyards; not only to find sufficient room for their bodies, but so as to draw less attention to the great mortality. Notwith-

standing all this, however, and the absolute want of any provision for the sick—"no nurses or nursing was allowed . . . . neither candle nor lamplight—" he only remembers *one inquest* being held on a person dying there, nor did the parish authorities institute any enquiry into the causes of this continual demand for renewed supplies of child labour. It was enough for them that the children were disposed of somehow.

THE FIRST REFORMERS.

It is a relief to turn from such shocking statements to the first stirrings of the public conscience in regard to them, and similar horrors; and to this brighter page of our story we gladly hasten. Even before the time of which Blincoe's narrative treats, letters had begun to appear in the Manchester newspapers about the bad condition of cotton factories in that neighbourhood, and some of those better influences described in the last chapter had commenced to operate. At the beginning of 1796 a committee, called "The Manchester Board of Health," was appointed to investigate the general subject, and on the 25th of January Dr. Perceval, an eminent local physician, brought up for consideration five resolutions dealing with it. These celebrated resolutions were as follows:—

"1st.—It appears that the children, and others who work in the large cotton factories, are peculiarly disposed to be affected by the contagion of fever, and that when the infection is received it is rapidly propagated, not only amongst those who are crowded together in the same apartments, but in the families and neighbourhoods to which they belong. 2nd.—The large factories are generally injurious to the constitution of those employed in them, even when no particular diseases prevail, from the close confinement which is enjoined, from the debilitating effects of hot or impure air, and from the want of active exercises, which nature points out as essential in childhood and youth to invigorate the system, and to fit our species for the duties of mankind. 3rd.—The untimely labour of the night, and the protracted labour of the day, with respect to children, not only tends to diminish

future expectations as to the general sum of life and industry, by impairing the strength and destroying the vital stamina of the rising generation, but it too often gives encouragement to idleness, extravagance, and profligacy of the parents, who, contrary to the order of nature, subsist by the oppression of their offspring. 4th.—It appears that the children employed in factories are generally debarred from all opportunities of education, and from moral or religious instruction. 5th.—From the excellent regulations which subsist in several cotton factories, it appears that many of these evils may, in a considerable degree, be obviated; and we are therefore warranted by experience, and are assured that we shall have the support of the liberal proprietors of these factories, in proposing an application for parliamentary aid (if other methods appear not likely to effect the purpose) to establish a general system of laws for the wise, humane, and equal government of all such works."

The above resolutions are important in more aspects than one. "They are in themselves," says "Alfred"[1] "a condensation of the evils of the factory system"; and they heralded moreover the first definite step towards compulsory reform. "The natural repugnance of the labouring population to factory labour had now," he remarks, "been partly overcome, and some of the more depraved among parents had begun to live on the wages of the labour of their offspring; an inversion of the order of family economy which in time was followed by a fearful retribution." The question of factory legislation was fairly raised in them for the first time; in the heart too of the principal factory district; and the conditions under which it originally was sought to be justified were clearly laid down. "These facts," continues "Alfred," "scatter to the winds the hackneyed, false, and silly charges of the opponents of factory regulation, that it had its origin in the sentimentality of pseudo-philanthropy, sham humanity, and Samaritanism. They establish the fact that factory legislation had its origin in self-preservation." . . . . "The enormities of

[1] Vol. I., p. 29.

the unregulated factory system having burst their boundaries . . . . their threatened victims were thereby forced to apply for a power stronger than the will of the factory occupiers" . . . . to oppose the torrent. But they were important in another and more agreeable light as well, in that namely thrown by the fifth resolution on the fact that there were some factories even then in which "excellent regulations" obtained, and whose masters were already animated by a very different spirit from what prevailed in the incriminated ones. Of this fact too we have knowledge from another source just at the same time, and one of such importance as to make it necessary to draw attention to it in some detail.

NEW LANARK MILLS.

The source in question is the extremely interesting story of the New Lanark Mills in Scotland,[1] which from such scattered information as is available[2] we shall now endeavour to piece together into a connected narrative. In the *Annual Register* of 1792 there occurs the following notice[3]:—

"*New Lanark.* Mr. David Dale of this place in the course of six years has reared a village on the banks of the Clyde, containing 2,000 persons, and erected five cotton mills, each of which contains 6,000 spindles. The various provisions which this extraordinary man

[1] This most interesting factory still remains a prosperous industrial concern, the greater part of the buildings and much of the shafting (not of course the machinery) being in precisely the same condition as when first erected. At a recent visit the author found much of the old part of the mill actually at work.

[2] Since these words were written a "Life of Robert Owen," by Mr. Lloyd Jones, has been published by Messrs. Swan Sonnenschein (1890), in which the story is very well told; and I have in consequence somewhat abbreviated it here.

[3] "Alfred," Vol. I., p. 20.

has made for the health of the children employed by him are highly praiseworthy. They have every day some hours allotted to them for exercise in the fields, and their looks bespeak health and vigour. These hours of relaxation the boys enjoy in succession; their apartments are likewise cleaned and well-aired, and ten schoolmasters are daily employed in their tuition." To this brief notice we propose to append the record of a few other interesting facts continuing the history of this establishment to a later period.

It will be remembered that after Arkwright had brought his spinning and other machinery to a successful issue, and before his patent was abrogated, he had busied himself in seeking partnerships with capitalists in very various directions: they furnishing the money, he conceding the right to use his inventions.[1] Amongst other persons to whom he made overtures was David Dale, a gentleman of wealth and position in Scotland. In 1782 they entered into a partnership of the kind described, and Mr. Dale commenced upon their joint account the erection of a large factory on the banks of the Clyde, about 30 miles above Glasgow:—the one referred to in the foregoing extract. "The site was a strip of valley-land adjoining the river, about a mile from the ancient town of Lanark," and "the entire waters of the Clyde, brought through a rock tunnel a thousand feet long, formed the mill-race."[2] In 1784, a village for the accommodation of the workpeople and

[1] Compare chap. ii., p. 73.

[2] "Threading my Way," by Robert Dale Owen; p. 7 (Trubner & Co., 1874). The "entire waters of the Clyde" is something of a hyperbole. The "rock tunnel" remains, and still supplies the mill-race, and it must be the joint lengths of these, I suppose, that make up the "1,000 feet." The mill-race itself is open to view throughout the whole length of the mill yard.

several mills, were built.[1] "Then, for the first time," writes Mr. R. D. Owen, "Arkwright (not yet Sir Richard) came to Scotland to visit the new manufactory." . . . . "Taking a post-chaise from Glasgow, Mr. Dale and he reached the summit of the hill, which commanded a view of the village, and on the gentle slopes of which were laid out small garden spots (*sic.*), separated by gravel paths. It was a fine summer evening. Mr. Dale led his partner to a favourable point, whence could be seen, not only the entire establishment, including the vast factory buildings, the mechanics' shops, the school-house, and the rows of stone dwellings for the work-people, but also the picturesque river winding its way below the mills, between abrupt walls of shrub-covered rocks, the landscape bounded by a beautiful champaign country stretching out on the other bank." A quarrel on a wholly trivial issue unexpectedly ensued;[2] neither of the disputants would give way; and this remarkable partnership was then and there dissolved.

For thirteen years afterwards Dale remained sole proprietor of the New Lanark Mills, distinguishing himself as an employer in the manner we have seen. The difficulties he encountered in establishing and maintaining his business were very great. "The labouring population of Scotland, having been accustomed to comfort traditionally, and by habit to personal freedom, refused to enter the cotton mills."[3] "He caused houses

[1] This account does not tally accurately with another one by Mr. Thomas Bernard, recently quoted by Mr. Holyoake in "Self-Help a Hundred Years Ago," p. 128 (Swan Sonnenschein, 1888). According to it, "The first mill, in length 154 feet, was originally erected in 1785, and, having been burnt down, was rebuilt in 1798 . . . . there were four in all."

[2] "Threading my Way," p. 13; where very interesting and full details are given.

[3] "Alfred," Vol. I., p. 19.

to be built, and let them at very low rents," but "so great was the aversion of the Scotch peasantry to the then novel system of working in factories, that very few, not being homeless and friendless, would accept of house accommodation on the lowest possible terms." Ultimately, he obtained the services of a number of Highlanders, "chiefly from the counties of Argyle, Caithness, and Inverness;" and in 1791 "secured about 200 shipwrecked persons from the Isle of Skye."[1] Mr. Dale next applied to the parish authorities of Edinburgh for a supply of children, the application was successful, and the children under his control "ultimately numbered 500." In exchange for their services, he "undertook to feed, lodge, and clothe them." They did not, apparently, receive wages. Their ages when apprenticed were from five to eight; the period of apprenticeship from seven to nine years; the hours of labour from six in the morning to seven in the evening. We cannot find anything definite about the time allotted to "exercise in the fields." Instruction was given at night schools. The adventure prospered; the establishment became famous; persons coming sometimes from great distances to visit it. "Already, in 1784," says Mr. R. D. Owen, "the population of New Lanark was upwards of 1,700, of whom several hundreds were orphan children; it was, I believe, the largest cotton-spinning establishment at that time in Great Britain, employing about a thousand workpeople." In 1797, a very notable visitor arrived, destined hereafter to so deeply impress his personality on the little community as to become almost exclusively identified with it in popular recollection. This was

[1] "Self-Help a Hundred Years Ago," pp. 129-131.

Robert Owen. The part which this distinguished man took in the factory controversy was of so important a kind as to demand special and separate consideration.

ROBERT OWEN.

Robert Owen was born on the 14th of May 1771, at Newtown, Montgomeryshire. When about eighteen years of age he joined with a mechanic in Manchester named Jones in starting a little factory for making spinning machines, just then coming very rapidly into use. Jones soon became alarmed at the ambitious ideas of his partner,[1] and found an opportunity of leaving him; and for a short while another one took his place; but, after a couple of years more, Owen gave up this business altogether, and obtained a situation as manager in the large spinning factory of Mr. Drinkwater of the same city. Having completed some years of honourable service there, he resigned that position too, owing to a difference with the principal, and, after a further interval, became manager of another establishment, the Chorlton Twist Co., also in Manchester. In these two latter situations the qualities which afterwards so highly distinguished him were apparent without being very prominent; he was a faithful and energetic servant and a kind and thoughtful master. Among other duties in connection with the last firm, Owen had that of visiting customers in the north of England and in Scotland; and in one of these journeys fate took him to New Lanark. He made there the acquaintance of Mr. Dale; he had already made that of Miss Dale; and in two years more the latter had become Mrs. Owen, and Owen joint proprietor with some other persons of the New Lanark Mills, having

[1] "Robert Owen and his Social Philosophy," by William Lucas Sargant, p. 10 (Smith & Elder, 1859).

purchased them from his father-in-law. He was now about twenty-eight years old.[1] He at once assumed the position of resident partner and sole manager of the works. It was a great opportunity, and he turned it to great account. The condition of things he found prevailing when he took up the reins of government was —nothwithstanding the high reputation of the place, notwithstanding Mr. Dale's well-meant efforts, and even partly it would seem on account of them—of a kind far from satisfactory to him, and incidentally affords a measure of what even the best conducted factories were like at that time. He disapproved of the early ages at which children were employed; but the pauper authorities refused to send older ones.[2] He considered their hours of work far too long; and objected that only when these were over was instruction begun: at a time, therefore, when they were least able to give attention to it. "The poor children hated their slavery," he says. "Many absconded; some were stunted and even dwarfed in stature from premature overwork;" and "at thirteen to fifteen years old, when their apprenticeship expired, they commonly went off to Glasgow and Edinburgh, with no natural guardians, ignorant of the world beyond their village, and altogether admirably trained for swelling the mass of vice and misery in the towns." The condition of the families who had immigrated to the village was also very lamentable. "The people lived almost without control, in habits of vice, poverty, idleness, debt and destitution." Owen was resolved to carry out a thorough reform. He "considered the disordered colony with the same satisfaction

[1] "Robert Owen and his Social Philosophy," p. 27.
[2] *Idem*, p. 32.

which animates a physician at the sight of a diseased patient whom he is confident of curing, and set to work with enthusiasm." For two years little progress was made. "The workpeople were systematically opposed," he says, "to every change which I proposed, and did whatever they could to frustrate my object." But gradually his persistency and the high nobility of his aims prevailed. He resolved to receive no more pauper children, and as the parish agreements made by Mr. Dale expired, renewed none of them. By a series of novel expedients: all ingenious, some extravagant,[1] but many very helpful: he endeavoured to arouse local spirit and a higher code of morality among the workers, and at a critical time he proved to them his own unselfishness by sacrificing a considerable sum of money in pursuit of their well-being.[2] This timely act won him their confidence; but it lost him that of his partners, who were not of the kind to prefer philanthropy to gain. The firm was broken up; and it was with great difficulty he got together another one, repurchased the concern, and recommenced his work. From that time till 1829, when he finally severed his connection with New Lanark and commenced a new and less prosperous career in the United States, the Lanark mills were a model of humane administration, dictated by the highest motives, enforced with the utmost energy, and encouraged by considerable success.

[1] These are fully described in Mr. Sargant's book; and in Owen's own autobiography.

[2] Namely in 1806, when the United States laid an embargo on the export of cotton. "It was four months before the United States Government terminated the embargo, and during that period the population of New Lanark received more than £7,000 for their unemployed time without a penny being deducted from the full wages of anyone."—"Life of Owen," by himself, p. 64.

Owen made his first appearance as a public speaker in 1812, and about the same time threw himself with great spirit into the factory controversy, now rapidly becoming a prominent one, of course on the side of the workers. In 1813 he addressed a public letter to the owners and managers of factories, in which he broached his views; and in 1815 undertook with his son, Mr. R. D. Owen, a journey throughout England and Scotland for the purpose of collecting evidence touching the condition of children employed there in them. "The facts we collected," writes the latter gentleman, "seemed to me terrible almost beyond belief. . . . . In some large factories, from one-fourth to one-fifth of the children were either cripples or otherwise deformed, or permanently injured by excessive toil, sometimes by brutal abuse. The younger children seldom hold out more than three or four years without severe illness, often ending in death."[1] Owen sought interviews with several prominent members of both Houses of parliament and laid these facts before them. He even prepared a Bill of his own with a view to procure a remedy. This Bill forbade the employment of children in factories under ten years of age, and limited their hours of work up to eighteen years to $10^1/_2$ hours a day. It prohibited them from night-work; and provided for half-an-hour's instruction daily, at the expense of the employer; and was to apply to "all cotton, woollen, flax, *and other mills, manufactories, or buildings* in which twenty or more persons shall be employed under the age of eighteen years." It is preserved and may be found in "A

[1] "Threading my Way," pp. 101-2.

Supplementary Appendix to the first volume of the Life of Robert Owen, Written by Himself"; p. 21 (Effingham Wilson, 1858). Mr. R. D. Owen states that his father obtained from the elder Sir Robert Peel, "then between sixty and seventy years old," a promise to take up this measure, and believes that had he exerted his great influence in its favour it might have been carried the first session. . . . . "But in several interviews with him to which I accompanied my father even my inexperience detected a slackness of purpose and an indisposition to offend his fellow manufacturers, who were almost all violently opposed to the measure."[1] This was also Mr. Owen's own opinion.[2] He introduced instead a Bill which applied exclusively to cotton mills,[3] and was far less stringent in its provisions even in them. Disgusted with the result, Owen sought to enter parliament himself, but failed: and with that failure the more active portion of his career in this connection may be said to have ended. He wrote many letters to prominent persons, and to the newspapers afterwards, and took part in many public movements and meetings on labour questions,[4] and up to the close of a long life, when his thoughts had been diverted to far other subjects, he never lost his interest in this one. But those efforts partook towards the end ever more of an academic character, and came at length to be much mixed up with other

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[1] "Threading my Way," p. 105.
[2] "Life of Owen," p. 116.
[3] Compare chap. vii., p. 281.
[4] For instance, the establishment in London of a "Labour Exchange."

issues. The vigorous propagation of the cause of which he was so early and earnest an apostle had been undertaken meanwhile by other advocates, in whose hands he was content to leave it.

COURSE OF THE CONTROVERSY.

If Mr. Owen's Bill had been taken up at once by Sir Robert Peel and passed into law, as both he and his son believed it could have been at that time, it would have ante-dated future factory legislation by more than half a century. It applied, we have seen, not only to all textile factories, but also to "other mills, manufactories, or buildings"—quite irrespective of the industries pursued in them,—where "twenty or more persons shall be employed under the age of eighteen years." So comprehensive a conception of their labour obligations in respect to labour has even now only quite recently been accepted by English statesmen as valid, and they are still in a state of considerable bewilderment as to its sanctions, and the whereabouts of its legitimate conclusions. To Owen is undoubtedly due then the honour of being the foremost and most farseeing of the early factory reformers; not merely in practice, as is more generally allowed, but in principle besides, and to those who rejected his advice must attach the responsibility both of postponing more advanced legislation, and of diverting that which did ensue towards a false issue. The controversy had clearly no more to do with the materials of one texture than another, nor with textile fabrics at all more than other fabrics, but with the fabrication of such things, and the relations between employers and employed in that regard. Yet, owing to the rejection of his proposals, and the direction given to it at this juncture, it was exclusively to textile industry, and even

to one particular form of it, that the controversy was for long limited, and that it became in a manner incorporated in people's minds. So inadequate a conception of its scope and bearing gave a great advantage of course to the opponents of regulated labour. In 1802 Sir Robert Peel had passed through parliament his Act for the protection of apprentices in cotton mills,[1] and in 1816 a committee of the House of Commons had been appointed to enquire into the expediency of applying this Act to other children. In 1816, 1817, and 1818, accordingly, evidence was taken before this committee, but it was of a contradictory kind, and at the close of the investigation those masters opposed to regulation issued a pamphlet[2] very cleverly contrasting the contradictory statements, skilfully traversing much of the unfavourable evidence, and demanding a verdict of "not proven." The unanswerable part of this pamphlet is contained in one or two pages (pp. 16, 17) where it is shown that mortality in other works, as for instance flax and woollen factories (which nevertheless would not be touched by the legislation then proposed), was actually greater than in cotton factories; but it is all worth reading. From the period of its issue it became certain that the restriction of the area of enquiry could not and should not be limited much longer in a manner at once so partial and illogical; it was obvious that the controversy would have sooner or later to take a much wider range.

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[1] *Ante*, p. 208.

[2] "An Inquiry into the Principle and Tendency of the Bill now pending in Parliament for imposing certain Restrictions on Cotton Factories" (London, 1818).

RICHARD OASTLER.

In the meanwhile the revelations that had been made before this committee, and both in and out of parliament; but in a special manner the narrative of Robert Blincoe ; and the testimony against,[1] not less than the testimony for interference, had not failed to greatly impress the nation. Some of the best minds within it were deeply stirred at the atrocities disclosed, and that all were not so was due probably either to strong bias, or to previously formed habits of thought, which it required in many cases an almost superhuman effort to throw off. A committee of sympathisers was early formed at Manchester to watch the action of such poor and partial legislation as there was, and generally to assist in the struggle, the names of those originally forming it being John Doherty, James Turner, Thomas Daniel, and Philip Grant, and this was the origin of those "Short Time Committees" of which a good deal has been heard since, and which have borne a prominent and honourable part in the factory controversy. Their efforts to make the law effective had met, however, up to this time with but little response even amongst those most interested:—"they became disheartened, and almost broke down for want of support." "At this critical moment," writes one of them,[2] "the attention of some humane men in Yorkshire was attracted to the subject. Mr. John Wood, of Bradford, had for some time been endeavouring by his own private influence to bring about a better system in the woollen mills of the West Riding; but, alas, the avarice of mankind, and the desire to accu-

[1] Compare pp. 289-91.

[2] "The History of Factory Legislation," by Philip Grant; p. 15 (Heywood, Manchester, 1866).

mulate wealth was too great to be subdued by that great and good man." He determined, therefore, to make a more public protest, and take more decided action, and began to look about for someone with energy and ability to aid him in the enterprise. He laid his case before a philanthropic friend, Mr. Richard Oastler, of Fixby Hall, Huddersfield, agent for the property of Thomas Thornhill, Esq., a large Yorkshire landowner. Mr. Wood was a wealthy worsted manufacturer, and well acquainted with the ins and outs of the factory question. He knew Oastler to be a brilliant controversialist; for he had more than once taken a stirring part in Yorkshire politics, on the Tory side. He knew him to be a friend of liberty; for he was an eager emancipationist, at a time too when to be a follower of Wilberforce meant to be in strong opposition to most men of his own set and party. To him he went then, either in the year 1829 or 1830, which does not seem quite certain.[1] Oastler was appalled and astonished at what he heard. He had known up to then nothing whatever of factories; all his interests being connected with the land; but from that eventful day his life passed into a completely new phase. He devoted himself heart and soul to the cause of the factory children; sacrificing to it —not figuratively but in simple fact—fortune, position, leisure, almost everything that had previously made it valuable; he became at one bound the prophet of a new creed. His first care was to become acquainted by per-

[1] "Alfred" says 1830; but in the "Sketch of the Life and Opinions of Richard Oastler," published in Leeds in 1838 the date is 1829. Still more extraordinary, Robert Owen asserts in his autobiography that Oastler was a conspicuous figure along with Nathaniel Gould at the committees which sat on Factory Legislation in 1816-19 (p. 121).

sonal investigation with the facts,[1] then he threw himself suddenly and with characteristic vehemence into the fray. A meeting had just before been held at Leeds in favour of negro emancipation. Oastler, availing himself for his text of portions of a speech delivered there, addressed a letter to the *Leeds Mercury* in which he definitely assumed the position of an advocate of factory reform. The letter is unfortunately too long to quote. It was headed "Yorkshire Slavery," and dated September 29th, 1830, though not published till October 16th.[2] Its appearance marks an important epoch in the Factory Controversy. Up to that time it could scarcely have been called a popular movement; its friends being mostly kind-hearted people outside the ranks of labour. From Oastler's entrance on the scene it definitely took upon itself that character,[3] which was

[1] Here again the accounts differ. "Alfred" says that Oastler wrote his first letter on this subject the very next day, and he quotes a beautiful story of an interview between him and Wood which occurred that morning, related by Oastler himself long afterwards in a periodical called "The Home" (1851), of which he was for a while editor. Wood sent for him:—"My friend was in bed, but he was not asleep; he was leaning upon a table beside his bed. On that table were placed two candles; between them was the Holy Bible. On my advancing towards the side of his bed he turned towards me, reached out his hand, and in the most impressive and affectionate manner pressing mine he said, 'I have had no sleep to-night. I have been reading this book, and in every page I have read my own condemnation. I cannot allow you to leave me without a pledge that you will use all your influence in endeavouring to remove from our factory system the cruelties which are regularly practised in our mills.' I promised my friend that I would do what I could. I felt that we were each of us in the presence of the Highest. I knew that that vow was recorded in Heaven. I have kept it, the grace of God having upholden me. I have been faithful." Notwithstanding this account, I think it more likely that Oastler made himself personally acquainted with the facts of the case before engaging in controversy rather than that he took them all from Wood.

[2] It will be found in "Alfred," Vol. I., p. 98.

[3] Especially after what was called the "Fixby Compact"; an arrangement between Oastler and some of the Radical working men's associations in which they agreed to mutually help each other on this question, in spite of religious and political differences.

in fact its proper one, and which it has ever since maintained.

THE YORKSHIRE AGITATION.

The evils complained of in Oastler's letter were those now familiar ones to readers of these pages, of personal cruelty to children, overwork, and insufficient hours for repose and meals. They had hitherto been alleged as occurring principally in cotton mills, but a representative meeting of Bradford manufacturers, called together for consultation on November 22nd 1830, acknowledged the practical justice of the charges in respect also to the woollen factories of that district, and professed its willingness for reform by means of a legislative enactment which should be equally binding on all. This resolution was communicated to the friends of the movement in parliament, and a long and important step forward in the cause of regulated labour was thus taken. But a number of other manufacturers, principally in the neighbourhood of Halifax, were far from satisfied with such a result, and resolved to get up a counter-demonstration. They did so accordingly, at a meeting held on 5th March 1831, and forwarded on their part another petition, embodying fourteen resolutions, directed against any interference. This document is again rather too long for insertion, and though Mr. Oastler's very able and witty synopsis of it is not so, it would perhaps be unfair to quote one without the other.[1] A fierce newspaper and platform controversy ensued ; not confined now to the manufacturing districts, but extending to many others, and in particular to London, where the reformers secured a patron in the Duke of Sussex, a brother of the King.

[1] They are both in "Alfred," Vol. I., pp. 109 to 117.

A "Metropolitan Society for the Improvement of Factory Children" was established there, of which he became a patron, and of which Mr. William Allen, a distinguished member of the Society of Friends, and at one time a partner of Owen's, was president. The matter was debated in public and private, in an ever-increasing variety of aspects, and a continually widening area, and by an ever-increasing number of controversialists. But the centre of the agitation was still for some time Yorkshire; especially the districts about Leeds, Bradford, Huddersfield, and Halifax; where it proceeded with extraordinary vigour. Here, meeting followed meeting almost continuously, and the organs of the local press knew no respite from correspondence and controversy on the subject. Amongst others, a great and memorable meeting was held in the Castle Yard at York, on April 24th 1832; at which a vast concourse attended and which had a considerable effect in strengthening the agitation;[1] and soon afterwards the Yorkshire leaders crossed into the neighbouring county of Lancashire, and made something like a triumphal entry into Manchester on August 23rd. Thenceforth the controversy became even more general, the interest in it deepened, and it was clear that a very critical period in its development was at hand.

M. T. SADLER: DEMAND FOR A TEN HOURS BILL.

In all these proceedings Oastler was now the leading figure, and was indefatigable in his exertions. But there had rallied to his side as time went on a few other noble and generous-minded men who were engaged in

[1] For a very graphic account of this meeting, and what followed it, see "Alfred," Vol. I., p. 235 and after.

fighting the same good fight, and whose names should always be remembered in connection with it. Unfortunately we have not the space here to do much more than record their names; but that much we can do, together with just the briefest possible summary of the more striking services and characteristics of a few of them. Michael Thomas Sadler was one of these. He was a resident for many years of Leeds, was a distinguished writer on politics and economics,[1] and had been returned to parliament in 1829 for the borough of Newark. Immediately upon taking his seat there he took up also the question of factory reform, and, not content with the progress it was making, urged upon his friends to be content with nothing less than a "Ten Hours Bill." Sir J. C. Hobhouse was just then piloting a measure (known as Hobhouse's Act) towards the haven of the statute-book, and was not prepared to accept Sadler's suggestion. It was, however, taken up enthusiastically outside,[2] and on the 16th of March, 1832, Sadler did actually bring forward his proposal in a speech of remarkable power, but only with the result that the whole question was referred once again to a Select Committee to be reported on. Over this committee he was himself appointed to preside. We shall have much to tell of it hereafter. Unfortunately he lost his seat shortly afterwards by a dissolution, and was not again returned to parlia-

[1] His best known work, "The Law of Population: A Treatise in Six Books, in Disproof of the Superfecundity of Human Beings, and Developing the Real Principle of their Increase"—(Murray, 1830)—is a reply to Malthus. It is a copious, learned, and thoughtful work. He wrote also a well-known work on Ireland.

[2] For further particulars of the nature and history of this demand see chap. vii.

ment, to the great regret of his friends and the great discomfiture of his cause. He died in Ireland (of which country he was a native) on 29th July 1835, and the blank thus left in the ranks of the reformers was never quite filled afterwards.

OTHER LEADERS G. S. BULL.

A colleague of Oastler's in the hottest of the controversy was the Rev. G. S. Bull, a clergyman of the Church of England. Minister first of an agricultural, afterwards of a manufacturing parish, and possessed of a strong sympathy for the labouring classes of either category, Mr. Bull was deeply conversant with their wants and feelings, and respective modes of thought and action. It was this knowledge which gave him such power in addressing popular audiences, principally, as was his habit, on the social and domestic aspects of this question. His homely language and familiar illustrations were well within the range of the humblest understandings, and powerfully affected them. He was less of a politician than Oastler, and his views were in some respects more extreme—going occasionally to the full length of opposing the factory system altogether, not merely the abuses and remediable evils of it—but he was a sincere, unselfish, energetic man, firmly persuaded that in adopting the course he did in this matter he was the most faithfully fulfilling the obligations of his sacred calling; a consideration that ever weighed with him above all others. When the parliamentary leadership of Sadler was lost to the cause, it was he who was selected by the operatives to go to London in search of a new leader, and how well this confidence in him was justified, the event, which secured to it the inestimable services of Lord Ashley, fully proved. When not

engaged in active outdoor agitation Mr. Bull edited a paper, "The British Labourer's Protector and Factory Child's Friend," published in Bradford weekly, which had a large local circulation.

LORD ASHLEY.

Of Lord Ashley's services to the factory controversy it would be impossible of course to do justice in such space as we have here at command; difficult to do justice to it within almost any space. His name will occur often again in this narrative, and his actions may be left to speak for him there more eloquently than aught else could do. But of his first introduction to it, this is the place to say something, and it cannot be said better than in his own words. Among his papers, long afterwards, a memorandum was found, in which the circumstances are related briefly and explicitly. It is quoted in Mr. Hodder's "Life of Lord Shaftesbury" (Vol. I., p. 148)[1] in the following words: "In the autumn and winter of 1832 I read incidentally in the *Times* some extracts from the evidence taken before Mr. Sadler's Committee. I had heard nothing of the question previously, nor was I even aware that an enquiry had been instituted by the House of Commons. Either the question had made very little stir, or I had been unusually negligent in parliamentary business. . . . . I was astonished and disgusted; and knowing Sadler to be out of Parliament (for he had been defeated at Leeds) I wrote to him to offer my services in presenting petitions, or doing any other small work that the cause might require. I received no answer, and forgot the subject. The Houses met in the month of

[1] "The Life and Work of the Seventh Earl of Shaftesbury," by Edwin Hodder, 3 vols. (Cassell & Co., 1886).

February, and on the second or third day I was addressed by the Rev. G. S. Bull, whom till then I had never seen or heard of. He was brought to me by Sir Andrew Agnew, and they both proposed to me to take up the question that Sadler had necessarily dropped. I can perfectly recollect my astonishment, and doubt, and terror, at the proposition. I forget the arguments for and against my intermeddling in the affair; so far, I recollect, that in vain I demanded time for consideration; it was necessary, Bull replied, to make an instant resolution, as Morpeth would otherwise give notice of a Bill which would defraud the operatives of their ten hours measure by proposing one which would inflict eleven." Lord Ashley obtained a respite for consideration only to the following morning, and then his choice was made. "He now stood," says his biographer, "at the parting of the ways. On the one hand lay ease, influence, promotion, and troops of friends; on the other an unpopular cause, unceasing labour amidst every kind of opposition; perpetual worry and anxiety; estrangement of friends, annihilation of leisure; and a life among the poor." He chose—as he always did—the nobler course, and pursued it with undeviating purpose to the last hour of his life.

JOHN FIELDEN.

The names of four other members of this—the first reformed—parliament call for special mention; William Cobbett, Joseph Brotherton, Charles Hindley, and John Fielden; but to the last-mentioned only can space for even a few words of notice be afforded. He was the son of Mr. Joshua Fielden of Todmorden, who about the year 1784 commenced the business of cotton spinning in a single cottage in that remote valley

just on the borders of Lancashire and Yorkshire. The business prospered exceedingly; the single cottage grew into a vast pile of buildings: one of the greatest of our great English factories. John served as a boy in his father's mill, just in the same way as any other boy employed there, and became thereby thoroughly conversant with the lot of the factory child. He was very young when the factory controversy commenced; and still too young and inexperienced when he entered parliament to be entrusted with the leadership of the movement there, though his claims to it were seriously debated alongside those of Lord Ashley. His support, however, as that of a practical manufacturer was invaluable, and was ungrudgingly given at all times. In 1836 he published his "Curse of the Factory System," a *résumé* in pamphlet form of much of the evidence given before the several Government commissions which had by that time reported; and in the opening words of the preface he describes his object in entering parliament in very noble and memorable terms:—"Not with a view of joining party men or aiding in party movements, but in order to assist by my vote in doing such things as I thought would benefit the labouring people as well on the land as in the factory and at the loom;" while in the closing words he describes his object in writing the pamphlet itself in language no less honourable. "The object of the following pages is to show that the workpeople have been and are cruelly treated; that they have not idly asked for protection, but that humanity and justice require it; that we shall do ourselves no harm by granting it to them; but always avowing that I would cast manufacturers to the winds

rather than see the workpeople enslaved, maimed, vitiated and broken in constitution and in heart, as these pages will but too amply prove they now are."[1] On the temporary retirement of Lord Ashley from the parliamentary leadership (in 1846) Mr. Fielden succeeded to the post; which he resigned again on Lord Ashley's return to public life, having held it in the interval with distinguished honour and success. In politics he was a strong Radical; in church matters a Dissenter.

J. R. STEPHENS.

It is painful to have to omit all mention of the names and services of many other workers, and there is one more name that certainly must be saved from such a fate. It is that of Joseph Rayner Stephens, orator and agitator in this and other causes. Mr. Stephens was a Dissenting minister, the scene of his ministrations being latterly at Staleybridge. His advocacy of factory reform belongs mostly to a later stage in the agitation than the period we have at present under review, but we cannot conveniently return to this branch of our theme, and what we have to say of him must therefore be said now. He was a man of great physical and intellectual powers, and of a vigour and earnestness of purpose that impressed all who met him. To a vehement style of oratory he added a quite singular grace and felicity of diction, and of apt and spirited illustration; passages of almost classical beauty often alternating in his speeches with others of rugged power. His biography has recently been written by Mr. Holyoake,[2] in the genial

[1] "Curse of the Factory System," Preface, p. iv.

[2] "Life of Joseph Rayner Stephens," by George Jacob Holyoake (Williams & Norgate).

and sympathetic style that that writer has always at command, and the reader may be confidently recommended to peruse it there. Between him and Oastler there ever existed great sympathy, founded on similarity of religious rather than political views, for Stephens was as ardent a Radical as Oastler was a Tory; but in this controversy, as has been before remarked, the ordinary designations and classifications of party were of small account.

Stephens lived long enough to see the complete triumph of his cause; a triumph far beyond the extent indeed to which he, and most of the popular leaders of that day looked; he died in 1879, the year in which the Factory and Workshop Consolidation Act now in operation came into force.

Under such leaders as these then, and in this manner, was the great Factory Controversy launched. Viewed at first almost exclusively from the sanitary standpoint, and of strictly limited application, it gradually assumed as time went on the proportions of a great economic question, upon which at length too most important political issues hung. Originating outside the ranks of workpeople, in the minds of sympathetic and quite uninterested men, it came at length to be thoroughly incorporated with their industrial aspirations, and is to-day even the lever to which many look with high hopes and expectations for very radical changes in the whole social fabric. Whether those changes will come soon, or come at all, is with the future to disclose; but it is certain that the steps taken thus far towards a solution of problems brought prominently to the front by the factory system have been productive of almost unmitigated good. To those leaders—their unsparing efforts, their unselfish devotion—the entire credit of that success is

due; we can hope no better thing perhaps than that further efforts, if they do come, may be entrusted to men equally able, moderate, and sincere.

LITERATURE OF THE FACTORY CONTROVERSY.

The literature of the factory controversy in its early stages was of that ephemeral kind found in newspapers, pamphlets, and local periodicals, such literature as is usually issued at periods of exceptional stress and energy in every modern public movement. Of such a kind was that pamphlet put forward by the masters in 1818, from which we have quoted, and which may stand as a very favourable type of many more. In 1828 was published "The Lion," a periodical primarily devoted to religious controversy, but containing also (as we have seen) the terrible "Memoir of Robert Blincoe"; and in 1833 appeared "The Poor Man's Advocate," or "A Full and Fearless Exposure of the Horrors and Abominations of the Factory System in England," which more especially applied itself to denouncing the inequitable system of fines levied in many factories; whereby the workers were constantly mulcted of a portion of their hard-earned wages; and to declaiming against the system of night work (the Relay system), and overtime. In connection with this latter practice it published regularly, "A List of the Midnight Robbers of the Repose of the Poor by working Factories in the Night," in which the full names and addresses of incriminated employers were given. The same year Mr. Gaskell's "Manufacturing Population of England" was issued: the year after Dr. Kay had published his work on "The Moral and Physical Condition of the Working Classes," which created a great sensation. Both Oastler and Grant were responsible at one time or other for literary organs deal-

ing with the factory question. The former issued from a debtor's prison[1] his "Fleet Papers," in which the controversy he had so much at heart was vigorously maintained; and the latter published for some time a journal, "The Ten Hours Advocate," favouring in particular a legal restriction on the working power of machinery. Mr. Bull's paper we have already mentioned. Mr. Fielden's "Curse of the Factory System" appeared in 1836; and with it the first period, crude and obscure, of the literature of this controversy may be said to have come to a close,[2] and a new epoch, dignified with some of the brightest names in literature, to have commenced. Amongst those names, and first among them, comes Mrs. Browning's, whose beautiful poem, "The Cry of the Children," aroused feelings and awoke echoes which the cruelest facts and hardest arguments had failed till then to stir to life. It is too well known, of course, and too long, to quote here in full, but a single stanza—the first—cannot be greatly out of place, and the luxury of transcribing it may be perhaps permitted us at the close of these long details.[3]

"Do you hear the children weeping, O my brothers,
Ere the sorrow comes with years?
They are leaning their young heads against their mother's
And *that* cannot stop their tears.
The young lambs are bleating in the meadows,
The young birds are chirping in the nest,

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[1] The circumstances which led to Mr. Oastler's incarceration on this occasion had nothing to do with his character as a factory reformer, nor, we must in fairness add, were they in any way dishonourable to him. See "Alfred" Vol. II., chap. x.; also the sketch of his life already quoted.

[2] I do not mean, of course, that this division is necessarily correct in chronology; but it is nearly enough so.

[3] There is a charming little edition of Mrs. Browning's poems lately published at an astonishingly low price (Smith & Elder, 1887).

The young fawns are playing with the shadows,
The young flowers are blowing towards the west:—
But the young, young children, O my brothers,
They are weeping bitterly;
They are weeping in the playtime of the others,
In the country of the free."

Of an earlier date are Dr. Dyer's poem of "The Fleece," so often mentioned, and a well-known passage in Darwin's "Botanic Garden" descriptive of Arkwright's factory at Cromford in Derbyshire;[1] and it is pleasant to add to the brief list a little-known sonnet by Mr. Cartwright (the inventor of the power-loom), written on the failure of his weaving factory at Doncaster from which he had hoped so much. This very interesting composition is as follows:—

"With sails expanding to the gales of hope,
My venturous bark pursued her leading star;
Hers was a voyage of no common scope,
A voyage of DISCOVERY, distant far!
To bright INVENTION'S intellectual clime,
In search of USEFUL ARTS, 'twas mine to roam.
I reached the object of my views sublime,
And richly freighted, bore my cargo home.
My friends expectant fill the crowded strand;
But ere I gain the shore, what storms arise!
My vessel founders e'en in sight of land!
And now a wreck upon the beach she lies!
With firm unshaken mind that wreck I see,
Nor think the doom of man should be reversed for me."[2]

Another pathetic little extract; which shall be the last; from a piece called the "Factory Girl's Last Day," is worth quoting chiefly on account of its authorship, but also as being the simple record of an actual event.

[1] Quoted in "Introduction to Factory System," p. 423.

[2] "Memoir of the Life, Writings, and Mechanical Inventions of Edmund Cartwright, D.D.," p. 111 (Saunders & Otley, 1843).

We leave out four of the eight verses of which it is composed for the sake of brevity; enough is left to display its spirit, and make the meaning only too plain.

"'Twas on a winter's morning,
The weather wet and wild,
Three hours before the dawning
The father roused his child;
Her daily morsel bringing,
The darksome room he paced,
And cried, 'The bell is ringing,
My hapless darling, haste!'

"'Father, I'm up, but weary,
I scarce can reach the door,
And long the way and dreary—
Oh, carry me once more!
To help us we've no mother;
And you have no employ;
They killed my little brother—
Like him I'll work and die.'

"Her wasted form seemed nothing;
The load was at his heart;
The sufferer he kept soothing
Till at the mill they part.
The overlooker met her
As to her frame she crept,
And with his thong he beat her,
And cursed her as she wept.

* * * *

"At last the engine ceasing,
The captive homeward rushed;
She thought her strength increasing—
'Twas hope her spirits flushed.
She left; but oft she tarried;
She fell and rose no more,
Till, by her comrades carried,
She reached her father's door."

* * * *

The testimony upon which this melancholy little tale is founded was given by the father of the poor girl herself, one Gillett Sharpe, before the commission of enquiry over which Mr. Sadler presided,[1] and the author was none other than *Sadler himself*.

The later epochs of the factory controversy contain such great names in English literature as Ruskin, Carlyle, Dickens, Disraeli, and Mrs. Gaskell, on the one side, and some scarcely less illustrious ones (Brougham, Roebuck, Spencer, Miss Martineau, &c.) on the other, and already several of the most valuable works we possess on special branches of modern industrial history, as Baines' "History of the Cotton Manufacture," Babbage's "Economy of Machinery and Manufactures," Ure's "Philosophy of Manufactures" and "Cotton Manufacture of Great Britain" (1835–36), had been produced. These are text books still. The literature of the debate, however, so far as it was of a fundamental character, tended after the first great success of the English reformers to be transferred abroad, especially to Germany, where the new system was now settling, and where it received from the first a treatment of a higher philosophical order than has been ever yet accorded to it here.

[1] See p. 315.

CHAPTER VI.

THE ECONOMISTS.

Recapitulation—Political Economy—Primitive Periods—Primeval Economics—The Jews—Classical Economy—Greece—Rome—Oriental Monarchies—Christian Economy—Mediæval Economy—The Renaissance and the Reformation—The Mercantile System—The Physiocrats—Adam Smith—Ricardo—Malthus—Other Economists—Effects of this Teaching—Summary—Socialism—Darwinism—The Present Position.

RECAPITULATION.

In the foregoing chapters we have placed before our readers a statement of some of the principal circumstances, as they occur to us, which preceded and accompanied the establishment of the modern factory system in this country. We have now reached a point in the narrative where it is desirable to look back, and survey momentarily the path that has been traversed. A considerable change in the structure of English society has been wrought. The labour conditions of the earlier part of the eighteenth century—of the period when Sir Thomas Lombe set up the first silk mill[1]—have by this time become obsolete, or are growing so, the inner and outer aspects of the country have greatly changed. From being a mainly agricultural it has become far more exclusively a manufacturing one, with all the displacements, local, political, and economical that that change implies. Machine industry has largely

[1] Pp. 2, 70.

superseded hand work, and is on the eve of doing so still more. A completely new motor has been supplied to production. Contemporaneously with these altered industrial methods, and new industrial ideas, has been evolved a strong protest on the part of the workers against some features of this change, and on the part of certain philanthropic observers against others. On the workpeople's side this protest has assumed the form of a marked distaste to factory life and a fierce rage against machinery; in the charge of their well-wishers of a demand for a statutory regulation of labour. We have briefly noticed some of the cruder manifestations of both these movements, and have adduced, in addition, some evidence (to be largely supplemented hereafter) pointing to the existence of shocking abuses existing alongside the much-improved processes of manufacture. We have nowhere found reason to state, however, that those enormities were necessarily connected with them. How came it then, we have now to ask, that they were suffered to exist at all once public attention was called to them? In what direction are we to search for the malign influences which blinded many of the worthiest and wisest citizens of the most humane of European states for a long time to the evils complained of?

A very important portion of the answer to that question forms the subject of the present chapter. It was to the teaching of the modern economists—their misunderstood and misapplied teaching in many instances—but to the popular conception of that teaching at all events, that this remarkable aberration of social rectitude was, outside the limits of course of mere cupidity and brutal selfishness, mainly due.

POLITICAL ECONOMY.

By the "modern economists" are meant in particular those who flourished in England during the second period we have had under review:—for about half a century that is previous to 1832-3; and by their teaching what came to be known and commonly spoken about at that time as the Science of Political Economy.[1] But we should be doing scant justice to the object with which this chapter is written were its investigations to be confined altogether to that particular body of doctrine at this particular time, for there is a wider aim in view. We believe the phenomena of social life systematised then into a certain logical form to have been only permanent in the sense of being educed from others whose roots were in the far past, and to have constituted but a phase, and what threatens to be even a very transitory one, in this long development. We propose to show that such phenomena are by no means constant things; but on the contrary extremely variable; and that no economic principles having the character of being true for all times and places alike. It will be more consonant with this purpose then, briefly to consider, in the first place, the nature and history of this (so-called) science;[2] and next to recall some of its manifestations at other times and places, before proceeding to the main contention.

[1] The *title* Political Economy was first used in England as the name of a branch of philosophy by Sir James Stewart (1767); and in France about a century and a half earlier. It was not however "known and commonly spoken about" here before the time mentioned.

[2] Of the Science of Economics I do not speak. Political Economy is one branch of it, as Domestic Economy is another; and as there are more. The precise place and function of Economics among the sciences has never yet been satisfactorily settled, its most distinguished professors being at issue on the point.

PRIMITIVE PERIODS.

When we peer into the recesses of an enormously distant past we become aware of the forms of creatures like ourselves, cowering in caves and thickets, subsisting on the spontaneous fruits of the earth, and constantly at war with wild animals and among themselves. In such a state of society there is economy of a kind no doubt, but not *Political* economy. Presently some of these creatures gather together into groups, family or tribal, a certain amount of organisation within a group ensues, a certain amount of communication is established with other groups, and an arena suited to a primitive form of it emerges.

The economic condition of primitive periods it usually classed in either of two principal categories; it was of the pastoral or agricultural kind. In the first, wealth is mainly embodied in live stock, and is nomad; in the second it becomes more fixed, and is centred principally in land. The political economy of a pastoral people relates mainly to their exchanges with other wandering peoples and is, as it were, exterior to them, but from the time that agriculture is resorted to social, relations become more complex, and economical problems arise among the possessing people themselves. How is the land to be held?—and divided?—and cultivated? When, if ever, shall it be re-divided? If some persons will not cultivate their parts, what is to be done? May they dispose of them to others; and within what limits?—such are a few of the difficulties that appear, and ever re-appear, as difficulties incident to this phase of economical life when they are not strictly and judiciously provided for. Archaic political economy is greatly concerned accordingly about such

questions, and it is astonishing to note the permanence some of its early answers to them have obtained when they have come to be embedded—as they commonly have done—in primitive custom or law.[1]

However they are answered, a succeeding phase supervenes, in the natural course of progress, when the disposition of the products of land as well as of the land itself have to be arranged about, and when such arrangements become therefore more complicated still. By this time society will have taken upon itself a definite political constitution, whether of a republican, oligarchical, or monarchical kind—which are the three principal varieties—; or of any combination of these; or it may have passed through all those three and be still on the way to further developments. Manufacture will have ensued on agriculture, and a new set of conditions and obligations have accompanied its appearance; capital will have been accumulated, and commerce have probably supervened. It is the proper part of Political Economy, we hold, to apply itself to the study and interpretation of the new economic facts as they occur in this or any other sequence, and to formulate maxims of conduct for the guidance of society in accordance with them.

PRIMEVAL ECONOMICS.

The doctrines of political economy are formulated by political economists, and obtain their effective expression when enacted into law. They are not mere speculative propositions. In primeval times (and similarly in all very backward ones)

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[1] The economical condition of China, for instance, is very much the same now that it has been two, three, four, five, or—it is impossible to say how many—*thousands* of years ago! Ours has been revolutionised within a far less number of *centuries*, and is in process of revolution still.

such persons have appeared commonly in the character of prophets, and when they became lawmakers as well have claimed supernatural inspiration and sanction for their codes: or when they did not do so those were generally assigned to them nevertheless. The religious books of primeval nations (and others very undeveloped) are commonly therefore the repertories of their economic doctrines, and as these are rare and difficult of access our knowledge of the political economy of those times is necessarily very limited. In such ancient scriptures as we do possess (the Bible, the sacred books of Persia, Arabia, India, etc.), the same general characteristics are noticeably prevalent. "The moral side of economics is the one they habitually contemplate. . . . . They abound in those warnings against greed and the haste to be rich which religion and philosophy have in all ages seen to be necessary. They insist on honesty in mutual dealings, on just weights and measures, on the faithful observance of contracts. They admonish against the pride and arrogance apt to be generated by riches, against undue prodigality and self-indulgence, and enforce the duties of justice."[1] Political economy is at this stage in what Comte calls the Theological phase,[2] and has not yet been disentangled from philosophical and religious speculation, nor conceived of apart from other social motives.

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[1] "A History of Political Economy," by John Kells Ingram, LL.D., p. 8 (A. & C. Black, 1888).

[2] Comte's well-known three stages of human knowledge: "The Theological or fictitious; the Metaphysical or abstract; and the Scientific or positive." "Positive Philosophy"; Introduction, chap. i.; Miss Martineau's edition (J. Chapman, 1853). We may avail ourselves of these divisions for historical convenience without pledging ourselves to their philosophical accuracy.

THE JEWS.

The political economy of the Jews affords the most familiar illustration of this stage of development. It was throughout the greater part of their national history in the theological phase. The Hebrews when they settled in the Promised Land were an agricultural people, holding their estates, as they believed, by direct inalienable tenure from the King of Kings (Leviticus xxv. 23); and on this conception their political economy was founded while they remained in possession there. Their system was a mixed communal and tribal one with Jehovah Himself at the summit. Relative, if not absolute social equality was prescribed by law (Leviticus xix.). The land was subject to periodical re-division,[1] and whoever sought to increase his holding largely was denounced, and threatened with divine displeasure: "Woe unto them that join house to house, that lay field to field till there shall be no place:"—[2] and that which applied to the tenure of land applied also to the disposition of its fruits, and of the other rewards of industry. Self-interest was stigmatised as the vilest motive that could possess a people (Leviticus xxv. 35, 36, 37); fraternity insisted on as the highest public duty (Deuteronomy xxiii. 19). Jews were not to exact usury from one another; were to pay sufficient wages to labourers, whatever the state of the labour market; were not to covet wealth, nor accumulate it to the detriment of others; even the stranger and vagrant were to be kindly used (Leviticus xxiii. 22). And this was all to be so ordered because God commanded it; and because the religious,

[1] Recent biblical criticism rejects the Jubilee as non-historical, but it fails to supply any adequate explanation of Hebrew land customs to take its place.

[2] Isaiah v. 8.

political, and economical obligations of men—or at least of Jews—were inseparable.[1]

CLASSICAL ECONOMY: GREECE.

Quite otherwise was it with the political economy of the classical era. In those wonderful portions of the literature of ancient Greece which have come down to us we find Economics assuming already the character of a special study, capable of being either isolated from or connected with other departments of Sociology, but always independently of any religious bias. The "Theological or fictitious" age has now given place to the "Metaphysical or abstract" (note 2, page 233), and the pastoral and agricultural phases of political economy to a highly concentrated form of civic life. Classical economy has however to be always considered in connection with the institution of slavery; which was not a necessary characteristic of primeval times; and Aristotle even lays it down as a maxim that the industry of the free man finds its only proper outlet in making good use of the slave ("Politics," chap. iv.), but to be directly concerned in the production of wealth is derogatory. Yet this same writer had as clear a conception as we have to-day of the nature and sources of that much debated, much desired entity; his views of it were as "scientific" as ours. The "bounty of Nature," he held, was the original source of wealth, and it was the duty and privilege of man to appropriate and employ it. Only

[1] Without multiplying authorities it will be enough to mention the principal works made use of in the composition of this paragraph (besides of course the Greatest Work of all). They are, "Jewish History and Politics," by Sir Edward Strachey, Bart. (Isbister, 1874); Milman's "History of the Jews," Popular Edition (Routledge, 1878); and "Early Hebrew Life," by John Fenton (Trübner, 1880). The last is a specially excellent little book.

it was not his whole or principal duty; nor was he to appropriate it for himself alone. Virtue, intellectual elevation, magnanimity of character, and patriotism, were more worthy ends to strive after, the good of all, not the good of one, the proper motive of human action. "Placing these doctrine side by side," says M. Blanqui,[1] "we obtain a very vivid impression of the fundamental economic belief of the Athenians, and of the nature of their resulting political economy." . . . "All their institutions aimed to make the citizens (the citizens only)[2] participate in the benefits of association." . . . "At Athens the public treasury was a sort of common purse, not only for the collective necessities of the population, but also for the expenses of each private citizen. . . . The State maintained public physicians. . . . Instruction was free" . . . they "had a general principle that no citizen should be in want"—even "the orators had themselves paid for speaking, and the people for hearing"! This system was in brief what we should now call State Socialism; but with the very important proviso that nineteen-twentieths of those within the social organism were not considered members of it. It is a fine fancy of the modern Socialists that some time in the future machinery will take the place of this despised class, and citizenship of the Athenian type be absolutely conterminous with population.[3]

[1] "History of Political Economy in Europe," by Jerome Adolphe Blanqui. Translated from the fourth French edition by Emily J. Leonard. Chap. ii. (G. Bell & Sons, 1880).

[2] "The title of citizen belongs only to those who need not work to live," (Aristotle, "Politics," iii. 3).

[3] An attempt to develop this notion in detail has recently been made by Mr. Edward Bellamy in "Looking Backwards," a book which has had a really phenomenal success.

Besides Aristotle, the most distinguished Greek economists were Lycurgus, Plato, and Xenophon. The first of these was a great statesman as well as political economist and his statecraft was for a while extremely successful. His system was more nearly related to communism than socialism (in the modern signification of those terms), though the conception of the supremacy of the State was behind all. All productive operations, as in Attica, were in the hands of slaves. There were no taxes. Every citizen had the privilege of sharing in the common wealth, and even of dining at a common table. They were taught to scorn industry and despise trade even beyond what was usual elsewhere.

Plato was, on the contrary, a speculative economist, and apparently did not himself believe in the possibility of his views being realised. Nevertheless he showed in his sketch of an imaginary Republic a very keen insight into economical problems, some of which are still under debate. The advantages of division of labour were clearly pointed out by him, and the functions of money enunciated. Great poverty and great opulence were equally condemned, and their interdependence (in anticipation of Mr. Henry George) asserted and argued. Usury was reprobated; and all the artifices of trade and material industry despised as servile.

The political economy of Xenophon was not very different. His analysis of the nature of wealth has never been excelled for clearness, nor his condemnation of its exclusive pursuit; and like the rest he believed in the absolute necessity of slavery, and the degradation of all productive industry except agriculture.

ROME.

The Romans produced no great political economists, but several admirable jurists, and this fact is typical of their relation to Economics generally. The huge fabric of dominion raised by them in the later years of the Republic and earlier ones of the Empire, was founded on a military rather than commercial basis, and maintained by sheer force and unceasing vigilance. An edict of the time of the first Punic War represents the prevalent tone of economic thought both then and for some centuries later. "The commercial nations must work for us," it says, "our business is to conquer them, and levy contributions on them. Let us then continue war, which has rendered us their masters, rather than give ourselves to commerce, which has made them our slaves."[1] Cicero considered commerce to be but a sordid affair at the best, and only tolerable when carried on upon a large scale and for the express purpose of bringing benefit to the State.[2] The motive of self-interest he repudiated as utterly contemptible. What applied to commerce applied with even greater force to manufacture. Augustus actually pronounced the sentence of *death* against the senator Ovinius for having stooped to direct a manufactory: "and this decree"—says Blanqui—"to us so extraordinary, seemed to the Romans perfectly natural." Yet the people who professed these highly heterodox doctrines (as we should consider them) became the most powerful and wealthy in the world, and have left a

[1] Blanqui, p. 49. Compare a well-known passage in "The Æneid" (Book vi., 48-54), where the Roman character and mission in relation to Art is spoken of in somewhat similar terms.

[2] "De Obligatio;" Book i., sec. 42.

deeper impress on succeeding ages than any other. The collapse came at length, but not for a prodigiously long time, nor until after an unexampled political success.

ORIENTAL MONARCHIES.

The economical conditions of the great ancient monarchies of the East, some contemporary with the classical epoch, some preceding, and some long succeeding it, resembled in their essentials, though not in their externals, the above, they rested upon political or quasi-religious privilege, the privileged class constantly narrowing, till it became absorbed in many instances in a single head. We know extremely little of the real ideals and administration of those vast communities, and little therefore of their resulting teachings.

CHRISTIAN ECONOMY.

Classical political economy rested on the doctrine of the natural inequality of man and the absolute necessity of slavery. This fundamental conception it arrived at moreover by a process of pure reasoning. It did not seek to excuse or justify it by professing or pretending a divine sanction, it accepted it as inevitable, in much the same way that we accept the fact of other animals existing on the Earth besides man, over which he claims and exercises nevertheless unquestioned supremacy. The doctrine of the first Christian teachers was directly opposed to this. It taught the equality of all men by reason of their common origin and destiny. The *fatherhood* of God implied the *brotherhood* of man. The differences appearing to characterise them were, it held, unreal and accidental; they were not founded in nature nor approved by God, who (in opposition to the doctrine of the Jews) was God of the Universe, not of any

particular tribe or nation. The first Christian economists (the Apostles) taught pure communism.[1] They were to have "all things common" . . . . and "not one of them said that aught of the things which he possessed was his own . . . . neither was there among them any that lacked; for as many as were possessors of lands or houses sold them, and brought the prices of the things that were sold, and laid them at the Apostles' feet; and distribution was made unto each, according as anyone had need" (Acts of the Apostles ii., 44-5; iv., 34-5). Such principles were abhorrent to the Roman theory and practice, and it is not surprising therefore that great efforts were made to suppress them. The contest is to be found described in many books of acknowledged authority and was fought out with unremitting ardour on both sides. It ended at length, humanly speaking, in compromise. In the course of centuries the simple Christian faith and practice absorbed some of the better features of paganism, while some of the more impracticable doctrines of the primitive Church were dropped. Christians had always taught respect for the powers that be, had said their kingdom was not of this

[1] Not the Apostles only, but the early Fathers too:—

"The use of all things in this world," said Pope Clement I., "is to be common to all. It is an injustice to say 'This is my property; this belongs to me, that belongs to another.' Hence the origin of contentions among men."

"God," says Bishop Ambroisius, about 374, A.D., "created all things that their enjoyment might be common to all and that the earth might become the common possession of all. Only unjust usurpation has created the right of private property."

Pope Gregory the Great, *circa* 600, enjoins: "Let them know that the earth from which they spring, and of which they are formed, belongs to all men in common, and that therefore the fruits which the earth brings forth must belong without distinction to all."

world, and as early enthusiasms grew cold it was comparatively easy accordingly for a few master intellects to develop a new policy, partly founded on the old, partly relying on new ideas, and to promulgate it as a systematic body of law. This task was undertaken by the great ecclesiastical writers of the next few centuries. A powerful official hierarchy was imposed upon the early Christian body, and the final appeal in all matters temporal as well as spiritual committed to its care. The result was, amongst other things, the partial return to a former economical ideal, and the birth of a new system of political economy.[1]

MEDIÆVAL ECONOMY.

The foundation of the new political-economical system was the modified sentiment of religion that permeated it, with which economical motives were now sought to be harmonised. In the classical-political economy religion and industry touched each other nowhere; now they were again mingled. In the *Corpus Juris Canonici*, says Dr. Ingram, the earlier mediæval economic theory is to be found. "The Canonists are friendly to the notion of a community of goods from the side of sentiment, though they regard the distinction of *meum* and *tuum* as an institution necessitated by the fallen state of men. In cases of need the public authority is justified in re-establishing *pro hac vice* the primitive community. . . (for) . . *cupiditas*, even when it does not grasp at what is another's, is the root of all evil, and ought to be not merely regulated but eradicated. Agriculture and handiwork are viewed as legitimate modes of earning

[1] The *capitularies* of Charlemagne, and the whole history of his reign and times may be studied with special advantage in connection with this period.

food and clothing; but trade is regarded with disfavour, because it was held almost certainly to lead to fraud. . . . The seller was bound to fix the price of his wares, not according to the market rate as determined by supply and demand, but according to their real value. He must not conceal the faults of his merchandise, nor take advantage of the need or ignorance of the buyer to obtain from him more than the fair price."[1] The foregoing principles, continues this writer, "point towards a noble ideal, but by their ascetic exaggeration they worked in some direction as an impediment to industrial progress." They were inimical, of course, to great accumulations of capital; and to production on a very large scale; for the contrast of great riches and great poverty was still nominally regarded as a symptom of disease, not of health, in the body politic. They were unfavourable to commerce; of which indeed the Church showed from the first the greatest jealousy, forbidding in express terms all trade with infidels and unbelievers, by whom it was then principally conducted; and they were opposed moreover to another influence of preponderating importance which began now to establish itself in Europe, introduced by the Teutonic and other northern conquerors. This was the Feudal system.[2] The prime economic feature in this system was the high place assigned to property[3] in land, not however as a means of producing wealth, but rather of obtaining power and influence without it, in despite that is of either economical or theological influence. Those

[1] "History of Political Economy," p. 27.

[2] For all this period Guizot's "History of Civilisation" is invaluable. There is an English edition in Bohn's Standard Library.

[3] The word Wealth is used here, and always throughout this chapter, in the orthodox economic (and therefore much restricted) sense.

diverging tendencies had therefore to be reconciled as best they might (they remain to be completely reconciled still), and a kind of adjustment was sought to be brought about among them. The Church, and sometimes the Crown, took manufacture under its care, whilst agriculture was given over to the feudal lords. The economical result, through a variety of changes, was that labour was emancipated much earlier in the former occupation than the latter, and began at once to organise itself, while in the other it lagged, and still lags, far behind.

THE RENAISSANCE AND THE REFORMATION.

Two further movements were meanwhile developing in different parts of Europe fated likewise to bring about very radical changes. The first in point of time had its home in Italy. This was the Renascence, or Renaissance, the "new birth" that is of learning, industry, and the arts. This movement owed its origin to that foreign commerce which the Church (with a clear prevision of results) proscribed, and to the leisure and luxury, born of accumulated wealth, against which the greatest efforts of the Christian political economy had been directed. This leisure gave the opportunity, and that luxury took largely the form of a close study of the writers of antiquity, the immediate result of which was to arouse a strong æsthetic sentiment, which presently spread from art to industry. But the effect of that study did not, and could not, end here. It further tended to liberate public sentiment from the thraldom of superstition rivetted on it by the powerful intellects that had dominated the Dark Ages; it brought pagan philosophy into fashion again, and with it the pagan conception of human dignity and self-

sufficingness. The Church became alarmed and found it necessary to shift its ground. It had preached the absolute equality of all mankind while its most dangerous competitors were unruly barons and ambitious kings, and always with a reservation of its own authority above all. When the masses began to show signs of requiring this equality to be put in evidence, against its own pretensions as well as others, things were different. From patronising industrial progress it attempted to hold it in check; it began to range itself on the side of the employers against the employed.[1] The intellectual movement known in history as the Reformation was the answer, economically speaking, to this challenge. There had been ominous signs of discontent already, and they had ever shown themselves most threatening in the ranks of labour. "In European history," says Mr. Thorold Rogers, "discontent with existing religious institutions, and the acceptance of heresy on speculative topics, have always been characteristic of manufacturing regions."[2] In the industrious regions of Europe, accordingly, the revolt against the interference of the Church in matters economical first made way, thus strongly supplementing from a quite different direction other liberalising tendencies already moving to meet it, and in particular the growing demand for political freedom which these divided counsels had themselves helped to promote. The event was the gradual emancipation of the new economy from both theological and feudal con-

[1] The efforts made by that devoted churchman Louis IX. (St. Louis) to organise industry on a strictly religious basis were but another phase of this endeavour.

[2] "The Economic Interpretation of History," p. 79 (Fisher Unwin, 1888).

ceptions, and its organisation under a quite different impulse.

THE MERCANTILE SYSTEM.

This new impulse was what may be distinctively named commercialism, its first great successes being gained in Commerce. It was entirely material; and strongly conditioned by contemporary facts. The most important of these, at the stage we have now arrived, were the opening of a new route to the East, and the discovery of another World lying westward of the old one; the immense potentialities and possibilities which those discoveries implied; and the positive certainty (multiplied many times by the dreams of avarice) of rich deposits of the precious metals existing there. At the same time western Europe began to wake from the lethargy of a thousand years and to give herself heartily to new ideals. The sum of all these influences led to the temporary ascendency in Europe of what became known as the Mercantile System. It will be necessary to explain in a little detail what that term meant. Christian and feudal economics had been founded principally on dealings in kind: the manner in which commerce had been principally conducted from immemorial times. The substitution of wage payments for feudal dues, and of money as a more general medium of exchange, produced necessarily a great change. It led (amongst other things) to an overweening estimate of those new instruments of trade and the substances of which they were made. Gold and silver, rather than land or service, became the forms of wealth most eagerly sought after, and the ultimate depositaries of both political and economical power. This was the foundation of the Mercantile System. Its

prime object was to limit the export of native commodities, except in exchange for coin or bullion, and to retain as much of these at home as possible. The result came about that, contrary to either pagan or early Christian teaching, the accumulation of money was now the chief economical concern of states and statesmen.

But the place and influence of the Mercantile System must not be considered as exhausted in this mere statement of its chief formal doctrine. It represents also an epoch in general history when scattered feudal principalities were gathered together and formed into nations again, self-sustained and with a definite national life, and signalises the opening of the new method of warfare; war by tariffs; by which one nation sought now to defeat another, instead of by the cruder ones of war and violence,[1] or of wars waged at all events for commercial rather than principally for personal and dynastic purposes. Political Economy appears under its influence in the light of exclusively a branch of foreign affairs, and was undoubtedly so regarded by the statesmen of that period, until the great upheavals of the eighteenth century forced new conceptions of it, and fresh deductions from it, on their minds.

THE PHYSIOCRATS.

An essential portion of the principles of economic philosophy now popular resided in the belief that wealth was a matter for national, not individual arrangement. Such a doctrine has advocates still.[2] It is one about

[1] The spirit of this new teaching is admirably illustrated in a treatise of the time, "England's Improvement by Sea and Land," by the celebrated Andrew Yarranton (1677). His thesis is, "To overcome the Dutch without fighting;" a feat to be accomplished by such devices as the above.

[2] On the subject of "The National System of Political Economy" consult the learned and comprehensive treatise of Frederick List under that title; *passim*. Translated from the original German by Sampson S. Lloyd (Longmans, 1885).

equidistant from the orthodox classical and modern ideals, while it is wholly at issue with the Christian, and all systems based on moral and ethical considerations. The classical economists regarded indeed the accumulation of wealth from a national point of view, but it was to reprobate it for the individual; the Christians, while giving full honour to labour, did so not as considering it a means to wealth, but rather as one means of escaping from the dangers attached to its possession. It was a penitential exercise, a disciplinary preparation for quite another state of being, towards which the present was but a subordinate experience.[1] But a new theory of political economy was presently to arise, one which not only regarded the pursuit of wealth as wholly honourable in itself, and properly within the sphere of individual action, but was soon to reject all other motives for its accumulation excepting only self-interest as unsound. The seeds of this phase of thought were planted first in England, by such writers as Hobbes, Locke, Sir Joshua Child, and Sir William Petty, and were primarily related to those exclusively commercial ideals and doctrines just described. They revived the conception, known to all the great ancient writers, of the limited part played by mere money in production and the great part played by human ability and enterprise, and gradually these conceptions began to assume a more absolute shape, the repeated failures of all governments in dealing with increasing commercial and industrial complexities driving the lesson

[1] See "The Social Results of Early Christianity," by C. Schmidt, pp. 212-213 (Isbister, 1885); "Life and Times of St. Bernard," by James Cotter Morrison p. 18 (Macmillan, 1868); Maitland's "Dark Ages," p. 160; etc., etc.

opportunely home. From this combination arose the doctrine of individual competence in industry. Was not every man the best judge of his own business, and if left to himself will he not surely pursue it to the best advantage? But the aggregate of individual advantages is the common advantage; withdraw, therefore, all exterior interference from industrial matters and all will go well. With the emergence of this conception[1] on the field of history the era of modern political economy commences.

There was at the same time going on in France a great ferment in relation to all branches of philosophy, where a congeries of brilliant intellects had challenged the most cherished ideas of the past, had weighed them in the balance, and found them wanting.[2] The foundations of the great French Revolution, the apotheosis of "liberty, equality, and fraternity," that is of unlimited competition in every department of social life, were being laid. Among other subjects of consideration that came under review, it was but natural that the system of mediæval economics, founded on feudal and spiritual control, should have a place, and be compared with the new ideas imported from England. A last effort had recently been made at the hands of the skilful Colbert to re-organise the old system; with the State only substituted for the Church as *deus ex machina;* and it had failed. The new school arose on this failure. It is

[1] It is called the Laissez Faire doctrine, from an answer given by a French merchant to Colbert when asked how he might benefit his trade: "*Laissez faire, laissez passer.*"

[2] For a brief but excellent description of the effects produced by these writers (especially Rousseau) on political-economical conceptions, consult Lecky's "History of England in the Eighteenth Century"; Vol. V., chap. xx.; Mr. Morley's works on the same subject are in more detail. For a counter-blast see "A Century of Revolution," by W. S. Lilly (Chapman & Hall, 1889).

often called the physiocratic school, and its most distinguished pupil was Francois Quesnay.[1] It accepted the idea of an abstract science of political economy responsible to no motives but exclusively industrial ones and heartily endorsed the individualistic theory, but it adopted a different starting point from that assumed in England. France was more an agricultural than a commercial country; so it was with agriculture the physiocrats began. Its tenets are thus described by Blanqui.[2] It held "that all wealth proceeded from a single source; which was the earth; since this it was that furnished the subsistence of, and the raw materials for, all branches of industry. Now labour applied to the earth, produces not only subsistence, but an excess of value over it, which they called the *net product*," . . . "and the net product" must "necessarily belong to the proprietor of the land," and "constitute a revenue at his disposal." What then was the relation of this net product to the produce of other occupations? "Here begins," says Blanqui, "the errors of these ingenious men, for in their eyes the other branches of industry were unproductive, and could add nothing either to the mass of things upon which they worked, nor to the general revenue of society. Manufacturers, traders, workmen, were all paid clerks of agriculture, which was the sovereign creator and dispenser of all wealth." The mighty power of external nature, in short, not the petty arts of men, was the fundamental fact and force. But the teachers of this school proceeded too fast. Dis-

[1] M. Quesnay was a doctor of medicine; physician to Louis XIV. He had been preceded in many of his speculations by M. de Gournay, who is commonly reckoned the founder of this school.

[2] P. 353.

gusted at the complete break-down of human authority as a regulator of economical concerns, they plunged (says Blanqui) by a natural reaction into the opposite extreme and were for throwing man over altogether as an agent in nature's purposes. The metaphysicians celebrated the condition of savage life as the ideal human lot, and the economists pointed to insensate matter as the only source of riches.

ADAM SMITH.

An attentive observer and student of this tone of thought was one Adam Smith, a professor at Glasgow University. Smith had resided for a time in France and been on terms of intimacy with the French economists, to whom he owed much, and of whom he always spoke with respect.[1] He had also imbibed largely the spirit of the French Revolution. His accurate and comprehensive mind early discerned the error in their system, and he set himself the task of deducing from the new lights thus afforded him a new theory of production, and developing it into a new system of political economy. The result was his "Inquiry into the Nature and Causes of the Wealth of Nations," which was first published in 1776. Smith sought to prove that labour, not land, was the original and the principal source of wealth. Of what use—he argued—were it to live in the midst of the most abounding natural productions if they were not by an act of labour rendered fit for human use? The quality of wealth is imposed on matter *only* by conferring upon it this fitness, and the conferring the fitness on the thing is therefore the whole act of producing it. From these premises it

[1] He had intended to dedicate the "Wealth of Nations" to Quesnay, who died however before its completion.

followed easily enough that the value of any commodity consisted in no necessary qualities inherent in it, but in its utility to anyone desiring it; and by a further and very elaborate analysis the consequence was deduced that the only proper way of arriving at this value was by seeing what other, and how many, things could be procured in exchange for it, by the method that is of unlimited competition. This doctrine of exchange value had been anticipated by Aristotle and others, and was indeed one common to many thinkers before Smith, but the latter writer developed and illustrated it to an extent never attempted before, and which ultimately led to its being the source of grave errors, and even great evils. In itself the doctrine was true, but only of one kind of value,[1] which Smith sometimes seemed to treat as if it were the only kind. It may be so no doubt in the region of pure economics; but that is a region in which it is as impossible for human affairs to be transacted as in the region of pure space, and life is a concrete even more than it is an abstract thing. Smith did not always make this mistake indeed, but admitted many exceptions to his general doctrine, which showed he was well aware of its limitations. Nevertheless he made that view too exclusively the predominant one; just as the physiocrats had made land too exclusively predominant in theirs; and a host of disciples (the "modern economists") unfortunately adopted his predominant idea in full, while the qualifying principles, equally an essential part of the argument, were suffered to fall farther and farther into the back-

[1] Namely *scarcity value*, which may or may not be a product of labour at all.

ground. The consequences have been already pointed out (chap. i.). They were the glorification of equality of condition and unrestrained competition, no longer as mere scientific conceptions, but practical doctrines, and even at length as formal rules of conduct.

RICARDO.

The most influential of Smith's immediate followers was Ricardo,[1] who carried most of his doctrines some steps further in logical arrangement, and added some new ones of his own. We shall not attempt to go into the latter, and will deal with the former only in the most general way, using their author's name rather as the head of a particular school of thought than with special reference to his individual contributions to it. A principal doctrine of this new school of economy was, that besides land and labour there was still a third thing necessary for the efficient production of wealth, namely savings from wealth or *capital*, which was what set the other instruments in motion. It would be utterly wearisome to recount even a few of the fine-spun metaphysical arguments that presently clustered about and rendered more obscure this unhappy conception of capital as a necessary third element of production. The fact of course is, that capital is not essential to production at all, but only a very important adjunct to it, and especially to production on a large scale.[2] The absolute essentials are labour and land: the energies inherent in man

[1] David Ricardo was a stockbroker of Jewish descent, and a man of fortune. His principal work is called "Principles of Economy and Taxation" (1817).

[2] A very distinguished writer (Professor Huxley) has lately endeavoured to show (*Nineteenth Century*, March, 1890) that capital is the "mother of labour," and he instances the nutritive powers of Nature as forming a primeval kind of capital. But this is clearly using the term in an altogether unusual sense.

and the rest of nature outside man: without which combined it cannot occur, while capital combined with either of these alone will always remain barren. Yet the orthodox economy of the Ricardian school did not hesitate to make this thing, in itself obviously sterile, and more obviously still a product of the other two, the prime consideration of all, and to erect thereupon a system of political economy as unsubstantial as any that had preceded it. According to this one, capital being the fund out of which labour is subsisted there would without capital be no labour (or none worth speaking about) and therefore no production. But capital under modern conditions is the property of capitalists who by skill or fortune can obtain it.[1] The great economical desideratum accordingly, was not land or labour, but wealth laid by; and the bounden duty of wealthy people was to become more wealthy still.

Recommended with extraordinary dialectical ability by a series of very brilliant men this marvellous philosophy of economy for a while quite enthralled the understandings and captivated the intellects of the great body of educated Englishmen.

MALTHUS.

Nor was it long without its complement in the region of distribution. The most original contribution of Ricardo to the new political economy was his formulating the law of Diminishing Returns in Agriculture, whereby it was shown that in thickly-peopled countries (like ours) labour applied to the cultivation of land meets ever in the long run with a less proportionate return. The produce of an acre of land may be raised ten or twentyfold by that much increase of labour on it, but it cannot

[1] Chap. i., p. 37.

be raised a thousand, or perhaps a hundred fold, labour as you will. Moreover, improvement becomes more difficult as the soil is worked. But even before Ricardo wrote, the Rev. Mr. Malthus (a clergyman of the Church of England) had been engaged in formulating a law for the increase of population[1] (*i.e.* labour, the other essential of production,) under like circumstances, which he concluded had just the opposite tendency: namely towards an ever *increasing* ratio: or as he put it for the sake of illustration, that while the produce from land would probably increase in an arithmetical progression, as 1.2.3.4., population might increase by a geometrical one, as 1.2.4.8., and constantly tends to do so unless checked by exterior causes. It would therefore in the fourth term of the above series—if allowed full scope—be already double the means of subsistence; and so on continually. This computation opened up a sufficiently disagreeable prospect in England, where land is so limited in extent, and led to a great discussion, since transferred to many other countries, but its immediate practical importance from an economical rather than a physical point of view sprang from its correlation with other deductions respecting capital and wages to which we must next allude.

For if capital be the exclusive source from which labour is subsisted, and wages are regulated by com-

[1] The first edition of Mr. Malthus's afterwards so celebrated work appeared anonymously in 1798, under the title "An Essay on the Principles of Population as it affects the Future Improvement of Society, with Remarks on the Speculations of Mr. Godwin, M. Condorcet, and other writers." In subsequent editions it was much altered. It is primarily a reply to the writers of the Revolutionary era who had asserted the natural equality and primitive perfection of man, and so considered has really paved the way for that revolt against the excessive individualistic teaching of the last few generations which the present one is now witnessing.

petition, then the livelihood of the wage-earning population depends entirely on the relation between these two factors. But population, we find, increases much faster than the means of subsistence, all things being left to regulate themselves, as by hypothesis they ought to be. There must therefore be a continual decrease in wages as population advances, and a definite place in the body economic to which the labourer inevitably tends, namely the point below which he cannot maintain mere animal life and above which he can never in the aggregate hope to rise. This was the "iron law" of wages, which, if really true and irremediable, would in the opinion of many good men justify at any time the working classes in revolution.[1]

OTHER WRITERS.

Happily it is only in part true. It is a fact of course that mankind, like most other forms of life, tends to increase with astonishing rapidity under favourable circumstances, and it is certainly a fact that the soil of the earth, which with labour is the source of all wealth, is limited, and the cultivable parts more limited still. It is a fact too that under modern conditions of production labour is dominated by capital. But allowing these assertions, even to the degree of abstract infallibility claimed for them,[2] what is the moral to be drawn—and here we come to the very gist and kernel of our charge against the modern economists? Let

[1] There is no attempt made to explain Mr. Malthus' system of "checks" by which the excess is often kept down. Properly considered these are but partial statements of some very various facts which could only at best postpone the above conclusion.

[2] This is allowing a great deal, for of course in many parts of the world the area of cultivable land is far in excess of the needs of the population on it.

us see. What is the moral that is usually drawn from the operation of other natural tendencies which seem to bear hardly on us? That we must provide against them if we can by bringing other natural tendencies to repel, and reduce them if possible to impotence; or must modify at least by some means their cruel effects. But was this the moral they drew? By no means. A whole series of writers presently appeared announcing that as those supposed laws were irrefutable in argument so it was useless to struggle against their fulfilment; that as society was thus deeply diseased political economy had no mission but to insist upon the fact. Many of these were men (and women) of great ability and of the kindliest dispositions, yet they accepted this "ghastly framework"[1] as a true presentation of the necessary lineaments of modern society, and proceeded with alacrity, and even with enthusiasm, to give the finishing touches to the picture. A monster was evolved from their imaginations, the *Economic Man*, with attributes such as never man had,[2] and converted into something like a fetish. This figment was passionless, omniscient, omnipresent, solely actuated by self-interest, and with no necessary past or future. He held no relations with, and acknowledged no obligations to his fellow-man but those of the economical kind; he was touched by no ethic, æsthetic, or spiritual motive. To that appalling model, they seemed to argue, it was the duty of all proper-minded persons to conform.[3]

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[1] The expression is Mr. F. A. Walker's; "Political Economy," p. 17 (Macmillan, 1888).

[2] On the "Economic Man," compare Ingram, pp. 108, 132.

[3] That this is not an exaggerated statement anyone may satisfy himself by turning to Mr. Nassau Senior's treatise on Political Economy, originally

EFFECT OF THIS TEACHING.

It must be acknowledged that the early fruits of this melancholy teaching, in so far as they appeared upon the surface, were extraordinarily striking and splendid. The advance in material prosperity and power which the country immediately made under it was such as the world had never before witnessed. Incited by the prodigious stimulus of unfettered freedom of action, and aided by vast accumulations of wealth, enterprise took a thousand new and wondrous shapes and scored a thousand great successes. Nor was this advance confined only to material comforts and conveniences; to which the teaching was more specially directed; it carried with it a corresponding advance in civil and religious liberty, in the abolition of political disabilities and hereditary privileges, in the decrease of the military spirit, the reform of manners, and the desire for and diffusion of knowledge. It is scarcely a wonder then that surveying the new world thus created (by these means principally) the inhabitants of it—especially if they were capitalists—should declare it very good, and have been difficult to convince that there was anything still wanting. Yet had they but thought of it without prejudice, and in the light that history sheds upon the past, this need not have been so. It might have occurred to them that enormous accumulations of wealth in the hands of individuals, like any other vast source of power so lodged, must be a

contributed to the Encyclopædia Metropolitana, but published afterwards separately. Mr. Senior took a prominent part in the Factory Controversy and in the original draft of this chapter a review of the above work was included. It is omitted now, along with other matter, owing to the inordinate length to which the chapter would otherwise have grown.

threatening factor in a community that aimed at real freedom, both of its own instance and in view of the tremendous contrasts thus continually presented. They might have remembered how in the history of mankind the depositaries of irresponsible power have always, or nearly always, abused it; they should have remarked that the classes who shared least in this prosperity were those who worked the hardest for it, and how their own good fortune was often obtained at a fearful price to others. In point of fact they thought nothing of the kind. Was not capital the source from which all good things came; and had it not produced these unprecedented results? Obviously then the more it accumulated the more good things there would be. Was it not the fund out of which labourers were fed? Clearly then the larger the fund the better for labour; what indeed could labour do without it? So they argued. And thus when the modern factory system began to display not only its vast powers of production, but also the shocking sacrifices at which they were often obtained, the factory masters—even the best of them—could not always see their way clear in the economical dilemma. Once again, was not this a free country, where labour contracts were freely made? No one forced people to come and work in factories; as in other times. If they came then, and suffered, whose fault was it? nay, how could the suffering be prevented? The affairs of industry were not voluntary affairs, but subject to strict economical laws, not to be broken without inflicting still greater hardships. Such were their arguments, and often too their conscientious beliefs, for they were the arguments and beliefs of the best political economy of the day. Nevertheless they were wholly wrong. The prime error was in call-

ing those labour conditions free. Politically free they were, but not economically free; what freedom has a man who must either undertake a task or starve? In point of fact they *could not* be free, the condition of the contracting parties being unequal. "When Adam Smith made the free exchange of labour the basis of his system," says Toynbee,[1] "he seems to have been too much a product of the period when he wrote, too much carried away by the spirit of that revolutionary era, to have analysed this doctrine with sufficient care." Had he done so he would have found "that what he sought to establish was *the free competition of equal industrial units:* what he was in fact helping to establish was *the free competition of unequal industrial units.*" This was the prime error, the "disastrous oversight." It has been the error of his followers ever since. Those keen intellects never sufficiently realised that perfect liberty of action not only allowed, but even assured, economical despotism, all other restraining influences being withdrawn. Their attention was concentrated too much on the subject of their study (wealth), and too little on its object (man). This too is their excuse. Few people are wiser than their generation, but rather are the necessary products of it, and the wise men of that age believed in their political economy just as the wise men of other ages believed in theirs. Nay, they believed in it far more. They were utterly infatuated with it. They relied on it almost as a new Revelation; as a true and certain explanation of much that had seemed dark to them before in Nature's purposes. It is difficult now to understand the strength of their convictions on this

[1] "Industrial Revolution," p. 17.

head. "Political Economy," says Mr. Bagehot,[1] "was the favourite subject in England from about 1810 to about 1840, and this to an extent which the present generation can scarcely comprehend." The general result was a passionate adhesion to these doctrines; in the face of every difficulty, every scruple; even of every kindly evasion of them; and the particular results to the factory system such as have been portrayed. This unfamiliar mode of industry was allowed to develop in its own way, to take on itself new forms and assume unheard-of responsibilities, without any proper effort being made at first to stay the terrible moral and physical degeneration which unhappily accompanied its great success.

SUMMARY.

If now this long digression has served at all its purpose it should have made tolerably clear by this time the conclusion intended, namely that the political economy which the modern school have originated had been preceded by others which in no way resembled it, and may be followed by more with just as different ideals. It is indeed practically certain to be so. Already the conclusions of the "modern economists" have been traversed by the conclusions of more modern economists, and are being continually altered. It has been shown how that the economical conditions of mankind have been different at different times, and therefore of necessity their economic philosophy; that their political condition has varied considerably, and consequently of course their political economy. Even the purpose with which the study itself was prosecuted has

[1] "Economic Studies," by the late Walter Bagehot, edited by Richard Holt Hutton, p. 154 (Longmans, 1880).

varied, and in some instances we have actually found the phenomena of wealth investigated that men might be warned against its too exclusive pursuit; while in others collectivism, in others political despotism, and in many slavery, have formed the basis of the social organism with which it was called upon to deal. Only very recently has pure individualism emerged; and in every case we have seen the most eminent persons of their day acting on each ideal as if it were the natural and necessary one. We have tried to trace too a sort of progress in the evolution of that which is now prominent. In very early or backward states of society political economy was not specialised from among other branches of philosophy, as Natural Theology, Ethics, and Politics, and when at length it came to be so was assigned a strictly subordinate position. Not until a more advanced stage did it come to be considered apart; and only at length in a society where material prosperity was the acknowledged and primary object of desire were its assumed laws inculcated as precepts of conduct independently of any further social sanction. Arrived at this point, we have noted it studied first in relation to money, the most commodious and tangible form which wealth assumes, and—the error of this being discovered—land given next the first place. The insufficiency of concentrating attention on an inanimate element of production being then perceived, labour, the other necessary element, gained precedence. It was at this stage that its development passed into the hands of the modern economists. At that time the whole field of industry in the civilised quarters of the Earth was undergoing a wide alteration. Machine industry

was superseding hand labour, and industrial enterprises on a far greater scale than formerly were being undertaken. The modern factory system was entering on its career of unparalleled success. In a society where labour was free these machines could only be possessed, and those enterprises successfully organised, by capitalists.[1] Upon capital then, the prime factor in modern prosperity, political economy fastened next as the final cause of wealth; round it the new industrial conditions naturally grouped themselves on the retirement of the political, the religious, the feudal, and all other overlordships of labour; and in it the aspirations and enthusiasm of the new economy was centred.

In the next few pages we shall consider some further developments of this historical process, in so far as they have yet revealed themselves, and can be said to be properly connected with our subject.

SOCIALISM.

The "antithesis" of Economic Science, says Toynbee,[2] is Socialism, and it is to the Industrial Revolution they both owe their growth. That term has been already used in a general sense elsewhere in this chapter, and was first employed in its later one, we are told,[3] "during the agitation of Robert Owen in 1835." It was conceivably this last circumstance that Mr. Toynbee had in mind when he made the above assertion. Not

[1] Compare chap. i., p. 39.

[2] *Idem*, p. 47.

[3] "An Inquiry into Socialism," by Thomas Kirkup; Introduction (Longmans, 1887). A more recent writer says, more correctly, "Modern Socialism had its origin some seventy years ago in France under the initiative of St. Simon" ("Socialism Old and New," by William Graham, M.A.—Kegan Paul & Co., 1890); an excellent treatise. But perhaps the two statements are not necessarily conflicting, the one applying only to its English, the other to its modern European origin.

Economics, but *Individualism* is the proper antithesis to socialism; and science is as much concerned with the one mode of thought and action as the other. So far from economic socialism dating from the Industrial Revolution, it is individualism that dates from then, all previous systems of political economy that we know of having been more or less socialistic in character. But the teaching of the early socialists was not always confined to the economical arena, it embraced many other social, and often political, and sometimes even spiritual relations. Modern socialists adopt another course. They hold it to be the economical constitution of society that most immediately demands alteration; and this is the task they set themselves. They do not altogether repudiate, while they attack, the orthodox economists, turning, and with increasing success, their own doctrines against them. They accept as proved the omnipotence of capital under present conditions, the Malthusian formula, the "iron law" of wages, etc.; and they ask, with overwhelming force, if the condition of things which those doctrines express is one which the working classes—who are the vast majority of mankind—can, or should, permanently bear, or bear for one hour longer than they have the power to alter it? If modern economists are right (say they) it is their obvious duty to oppose so evil a destiny or perish in the attempt; but if they are wrong, then let their Political Economy (like the Astrology of other days) be relegated to the limbo of exploded sciences and sensible creatures set to work to devise a new industrial system.

These two alternatives represent fairly enough the two principal schools of modern socialism, the destructive and constructive, which in their turn repre-

sent the revolt of the present generation against the teaching of the "modern economists" in its more and less acute form. Of the former it is unnecessary to speak here; or at least we have not space to do so. The latter is an important and increasing cult. It begins by denying many of the axioms of the orthodox writers. Man is not always, nor even usually, the best judge of his own affairs, nor will he if left to himself necessarily pursue his interests in the expertest manner. Still less will he be always sure to do so in the way most beneficial to his fellows. The motive of self-interest leads men to wrong-doing more often than to right-doing, and should therefore be replaced by the motive of public interest. The accumulation of great wealth is generally an undesirable, not a desirable thing; every great teacher of mankind has always said so. Equal economical conditions, not unequal ones, is the proper ideal, and it is the duty of government to bring this result as nearly as possible about. The theory that it should stand aside while competing interests tear each other to pieces in an open market is a barbarous and revolting one, which must end in disaster at length.

It is less easy to gauge the attitude of modern socialism towards the factory system. Reasoning *à priori* one might suppose it a safe inference that socialism would favour combined labour, but it does not appear to do so, and even the most able of its expounders (as Marx) are constantly guilty of the singular error of confounding the modern factory system with machine industry. Possibly this elementary misconception is at the basis of most of their unsatisfactory references to it, and of the extraordinary violence with which they sometimes

attack it,[1] for it is difficult to conceive any other motive. But surely machine industry is not necessarily a non-social mode of labour. Is it not even conceivably the very means through which some of their fairest dreams might become realities?[2] Nor are they less open to suspicion in their interpretation of the doctrine of Development; to which nevertheless they appeal so often, and which is in fact responsible for their own existence through the obvious process of a violent reaction. The fundamental weakness of modern socialism is its too complete repudiation of the motive of individuality, which it would utterly suppress. But such a design is unattainable under present conditions, even if it were desirable, by any process short of a relapse into another form of slavery, and when its exponents descend from generals to particulars this fact becomes apparent.[3] The influences that shape the destinies of mankind are not the result of this or that philosophical conception, but the comprehensive growth of ages, and the present reign of capitalist production and "enlightened self-interest" is no exception to this rule. The individual must be suppressed, say they, by fair means if possible; if not

[1] See, for instance, a series of papers originally contributed to "The Commonweal" (about 1885-6) called "The Factory Hell." Extraordinary accusations were brought in these against modern methods of production, and the implication seemed to be that the return to a state of nature was the only course open to a humane and self-respecting people.

[2] Compare p. 236.

[3] In "The Co-operative Commonwealth" by Laurence Gronlund (Swan Sonnenschein, 1886), one of the few formal statements of their doctrine in our language, that is the upshot. See also "The Quintessence of Socialism," by Dr. A. Schaffe (same publisher, 1889), *passim*, but especially p. 41 *et infra*. There is, however, a small but very intelligent body of thinkers in England calling themselves "Fabian Socialists" who must be excepted from this general statement, their object being apparently a reform, not a revolution, in economic teaching. See "Fabian Essays in Socialism" (1889), and "Socialism in England," by Sidney Webb, LL.B. (Sonnenschein, 1890).

by force. He must surrender his free will for what others consider the general good. But after the long and painful battle that civilised man has fought to secure for himself the exercise of just this attribute; and after its successful issue; is it the least likely that he is going to do so? The fact is that just as the modern economists revolted against the legal trammels imposed on industry by the close corporations and tyrannical potentates of the Middle Ages, and plunged into the opposite excess of unlimited competition, so these thinkers are revolted by the evils of competition and would wholly give it up, ignoring all the great events in physics, in politics, in religion, that have introduced the competitive era. There is no need for this. The workman has shaken himself free from spiritual tyranny, from the feudal tyranny of barons, from the "right divine" of kings; he will free himself also from the economic tyranny of the capitalist, but not to bring his neck under this new yoke. What society owes to modern socialism is an eternal debt of gratitude for its unflinching advocacy of the claims of labour; and its exposure of the weak places in the modern capitalistic and competitive scheme of political economy; but having found the individual, and seen what he is capable of, we are not going to part with him. We will be content instead to moderate his energy, and guide it; to yoke to liberty his twin brother law; we must not inaugurate a new oppression under however specious a name.

DARWINISM.

The teaching of the modern economists was exclusively material, and assumed to be scientific, to the extent even of sometimes adopting mathematical symbols in the statement of its propositions (a bad habit which a few of the socialistic

economists have followed). A more recent school has arisen, known as the historical,[1] far less absolute in its view of the nature and functions of political economy; and there is at present the nucleus of a third school, of what may be called biological economists, applying analogies and facts of physics to economical phenomena. The rise of this last one may be traced to a large extent to the writings of Mr. Darwin,[2] who pushed the speculations of Malthus into all departments of animate nature, and arrived at conclusions very similar to his upon this far wider plane.[3] Briefly stated, the teaching of Darwin is that universal struggle is the law of all life, and that by means of it a constant evolution is going forward resulting in the survival of the fittest types. At first sight this philosophy seemed to corroborate that of the orthodox economists, and it was said :—If this condition of anarchy is a universal natural law, why seek to interfere; why strive to arrest or divert by any expedient what is the obvious destiny of mankind, in common with all creatures? The justification of *laissez faire* is complete. But a little reflection, and more familiarity with Mr. Darwin's writings, presently showed, that, as in the case of Adam Smith, the disciples had rather outrun their master, and attributed views to him of a more unquali-

[1] It is generally held to be represented among English economists by Cairnes and Cliffe Leslie; who were preceded, however, by Richard Jones. Its fullest and best expounders have been, and are, in Germany.

[2] The relation of biology to the social sciences had long before been pointed out by Comte ("Positive Philosophy," Book VI., chap. iv.); see also "The Study of Sociology," by Herbert Spencer, especially chap. xiv.; and indeed most of Mr. Spencer's works. Compare "Physics and Politics" by Walter Bagehot; International Scientific Series (H. S. King & Co., 1876).

[3] Mr. Darwin has himself stated in his published letters that it was Malthus' Essay on Population which first suggested to him the theory of Natural Selection.

fied character than he had enunciated. It was observed too that in the expression "survival of the fittest" there was an ambiguity. For who were "the fittest"? Not necessarily the worthiest or strongest, but those best fitted to their surroundings. Thus, in a morass—for example—the animals fittest to survive would be those with the lowest capacities; suited to slimy, marshy places; and so in a criminal or idle population, the most criminal and idle members of it. Were results like these to be aimed at in human society? Were such tendencies to serve as the basis of rules of conduct? Then gradually it began further to dawn on people that observations of the facts of physical science have no necessary relation to conduct at all; that concepts of human obligation founded on such bases belong to a pre-scientific age; and that least of all did it become modern Economics (which pretends to be wholly scientific) to adapt those teachings to itself. And at length inferences began to be drawn from Darwinism the *reverse* of what were formerly made. "The history of civilisation," says Professor Huxley,[1] "is the record of the attempts which the human race has made to escape from this position" (*i.e.* of constant conflict) . . . and "of all the successive shapes that society has taken that most nearly approaches perfection in which war of individual against individual is most strictly limited." So that civilisation, society itself; which is the arena of

[1] "The Struggle for Existence" (*Nineteenth Century*, Feb. 1888, pp. 165-166). See also "Darwinism and Politics," by David G. Ritchie, M.A. (Swan Sonnenschein, 1889). But Darwin himself had explicitly made the same assertion long before. "Those communities," he says, "which included the greatest number of the most sympathetic members would flourish best" ("Descent of Man," Second Edition, p. 163).

economics; depends in the opinion of an ardent believer in this process upon controlling it, not being controlled by it; in other words man is a conscious animal, "looking before and after," he is not merely a natural production. If he chooses to confound a knowledge of certain generalisations made by himself with a blind allegiance to them, let him, but let him not call that science.

THE PRESENT POSITION.

The present time finds the minds of jurists and statesmen in a condition of great perplexity respecting the rightful province of Political Economy. Our statute book affords the best proof of this. For years back we have been adding enactments to it in direct opposition to the principles of economics we still nominally profess,[1] the legislation dealing with factory, and so called factory labour—to which our story leads us next—being the most conspicuous, though by no means the only example of this tendency. Such a pretence is demoralising, as all pretence in legislation infallibly is. More lately a good deal of this has been quietly dropped; our laws are becoming more frankly socialistic, and even the title Socialist is no longer disclaimed by statesmen.[2] Notoriously there is danger in all reaction, and there is a possible danger of this one proceeding too fast. The extremely delicate fabric of modern industrial organisation; a resultant of so many and such various subtle forces; cannot be roughly shaken without great injury accruing, and could

[1] In "Politics and Economics" (Kegan Paul & Co., 1885) Mr. W. Cunningham gives a very striking list of them, supplemented by some caustic criticism.

[2] It was lately declared by an eminent living English one that "We are all socialists now!"

not of course be revolutionised altogether without introducing a catastrophe of an appalling kind. It is strange to have to utter this warning, but it is scarcely out of place to do so. What is wanted at present is to give up all pretence and take a steadfast view of the real situation. We have to remember we are not only "economic men" but political men as well (to say nothing of a moral and spiritual nature likewise), and that political economy has in fact no concern with man at all until he enters the latter category.[1] The mistake of the old economists lay in neglecting this fact; in reducing the affairs of social life to their rigid formulas instead of adapting their formulas to the affairs of life, in ignoring in short one-half the very science they professed to have constructed and to teach. The day of *laissez faire* is over. Let us freely recognise that fact. It was but a brief and stormy "day" at any time, the epoch of a bold experiment, but of no final discovery in social science, as its admirers fondly dreamed. It remains for us to face the responsibilities of the new position soberly and with knowledge, but equally without hesitation and without fear.

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[1] See *ante*, p. 256.

CHAPTER VII.

THE FACTORY ACTS.

Philosophy of Factory Legislation—Competition and Combination—The Combination Laws—Previous Labour Legislation—The First Factory Act—Extension of the Principle of Interference—First Parliamentary Enquiry—Resulting Legislation—The Ten Hours Bill—Progress in Parliament—First Royal Commission—Lord Althorp's Act—The Evidence for Interference.

PHILOSOPHY OF FACTORY LEGISLATION.

NOT until quite recently in the history of mankind did any numbers of persons imagine that the relationship of man to man in respect to industry should be less a matter of exterior control than in regard to any other contract or relationship subsisting between them. On the contrary, it had ever been considered one of the first and most obvious cases for supervision. In the great slave-holding countries of history, for example; from ancient Egypt and ancient Assyria, to Great Britain in the last—and the United States in the present—century; cognizance more or less strict was always taken by law of this department of national affairs. The working hours of slaves on British and American plantations were regulated with great precision, and it was incumbent on their employers to provide them with proper intervals for rest and meals, and not to exact too exhausting labour from them.[1] In Greece and Rome, great labour

[1] By an Act of George IV. it is provided: "That each slave shall be allowed half an hour for breakfast, and out of crop, two hours for dinner; during crop, one hour and a half," under a penalty of £50. By the same law it is provided that, "every owner or manager shall provide for his slaves a sufficient quantity of good and wholesome food, dry and comfortable

federations, recognised and sometimes employed by the general body of citizens, performed these functions, though there were positive labour enactments as well.[1] In the Eastern world the institution of Caste has long fulfilled the same purpose. In Europe, from the close of the Dark Ages to the rise of the principal modern states, those duties were undertaken by the guilds and municipal corporations, with the consent, expressed or implied, of the supreme authority: who rigidly prescribed the hours of work (usually eight a day),[2] prohibited work at night, and on Sundays,[3] forbade infant labour,[4] punished fraudulent workmanship,[5] and even provided in some instances for that unfulfilled aspiration of our own times—a compulsory weekly half-holiday.[6] Later, the State assumed more directly some of these functions[7] and greatly increased the hours of work.[8] Later still it cast off all responsibility concerning them. It was at this last-mentioned time that the modern factory system began

lodgings, suitable clothing, and medical aid and advice," and they are further bound "to comfortably maintain all old, infirm, and diseased slaves on their estates"; the penalty being in this case for each omission, £100.

[1] See for many curious particulars and abundant references a most interesting book recently published, "The Ancient Lowly," by C. Osbourne Ward (Washington, 1889).

[2] "Six Centuries of Work and Wages," by J. E. Thorold Rogers, Vol. I., p. 180 (Swan Sonnenschein, 1884).

[3] "The Conflicts of Capital and Labour," by George Howell; p. 52 (Chatto & Windus, 1878).

[4] "History and Development of Guilds," by Lujo Brentano, chap. iv. (Trübner & Co., 1870).

[5] *Idem*, p. 64.

[6] *Idem*, p. 66.

[7] For example, a very curious instance mentioned by Mr. Howell:—"When Cromwell abolished the feasts of Christmas, Easter, and Whitsuntide . . . . . the apprentices . . . . . petitioned Parliament for the appointment by law of one day in every month for these purposes (of holidays) and Parliament thereupon set apart for them the second Tuesday in every month" ("The Conflicts of Capital and Labour," p. 72).

[8] See post, p. 8. "Capital," Vol. I., p. 256 *et seq.*

to settle in England. The new industrial organisation presented in a form more condensed and obtrusive the evils flowing from unregulated labour than was possible under any earlier one, and it supplied of its own instance no antidote. The Domestic System, which ran it at first a close race for precedence, was more scattered, less open to observation, and while it lasted competition was not so keen; and isolated individual labour was still strongly under the influence of custom. Further, it occurred at a time when all earlier safeguards had ceased. The material obligations involved in actual slavery; the implied obligations of serfdom and feudality; the parental despotism of the tribe or commune; the ethical palliatives supplied by law or religion; even that supervision furnished from among the workers themselves, existed no more. It hastened, accordingly, if it did not actually produce, a reconsideration of the whole question of the duties which society owes to its individual members in this particular, from which reconsideration proceeded again the great controversy whose outlines have been sketched in the last two chapters, and at length that unprecedented body of statute law known as factory legislation.

The early phases of this legislation form the subject of the present chapter.

The story—it is well to apprise our readers beforehand—is an exceedingly complicated and involved one, necessitating the patient study of many small details, and constant reference to extrinsic motives and impulses, which were all the while (though not always visibly) shaping its course. It is one closely concerned with parliamentary agitations, committees, and debates, and all the petty paraphernalia thereto belonging; and it seems

to need besides, for its full historical apprehension, some further reference to labour regulations which it immediately displaced; and which will be now accordingly our first concern.

COMPETITION AND COMBINATION.

At the period in question, two antagonistic forces had been long endeavouring to establish some kind of equilibrium in the industrial arena and one had been routed. Combination had almost wholly succumbed to competition. We have elsewhere (chap. i.) endeavoured to explain the nature of this latter force in matters economical, the same we have observed as in matters physical, and called in that department of philosophy "the struggle for existence": an observed law of life under which the more powerful organism dominates at length the less powerful, and will ultimately if unopposed stamp it out of being. We have had occasion (chap. vi.) to note how the modern economists sang its praises on account of its vast influence in the production of wealth, and to show how powerfully this teaching wrought in the minds of many just and able persons in the earlier years of the present century. But those most nearly affected by competition have seldom regarded it in so favourable a light, and hence the constant efforts throughout history to mitigate its oppression, under the influence of religious, or ethical, or political motives, or even of the crude but not wholly inexcusable one of self-preservation. Now, persons who have to work from day to day for mere livelihood—the wage-earning class—are those most nearly touched by economical competition, and they have therefore from the first dawn of freedom, and wages presuppose civil rights, opposed to this relentless arbiter of their destinies the powerful defence

of combination. Clearly, if all the subjects of the life-struggle agree together not to fight, they can (within the limits of their own lives at all events) modify and direct that struggle in almost any manner they think fit, and one result of this action of theirs has been in most ages, but especially in modern times, the formation of those guilds, trade societies, and trades unions often alluded to.[1] About the fifteenth century, however, the mediæval guilds in England fell into decay, and were finally extinguished (after being plundered) by Henry VIII. His successors, particularly Edward VI. and Elizabeth, made certain efforts to fill up the gap, but they were only partial efforts, and met with only partial success, and they were far more than counterbalanced moreover—anything that was good in them—by the tone which these and succeeding monarchs assumed thereafter towards efforts emanating from the workers themselves, which they resolutely endeavoured to suppress. A series of enactments (the Combination Laws) followed, by which such action was even sought to be utterly put down, and in the light of which this ancient and approved device for self-preservation was transformed into a crime.

THE COMBINATION LAWS.

Omitting some earlier precursors of this changed tone of feeling (as for instance 34 Edward IV., c. 9, and 3 Henry VI., c. 1); which applied more to particular instances and occasions; we will cite 2 and 3 Edward VI., c. 15 (A.D. 1548) as the first of the series of statutes aimed specially against combinations of workmen in this country. The preamble to this enactment fully ex-

[1] Compare "Introduction to Factory System," pp. 64-5, and note 1.

plains the new policy. It recites that "artificers, handicraftsmen, and labourers have made confederacies and promises, and have sworn mutual oaths, not only that they should not meddle one with another's work, or perform and finish that another hath begun, but also to appoint how much work that they should do in a day, and what hours and times they shall work, to the great hurt and impoverishment of the king's subjects"; such combinations are therefore declared to be illegal. This law was confirmed and enlarged by 22 and 23 Charles II., and supplemented by others; all of which remained in force till 1824, when they were repealed by 5 George IV., c. 95. At this time therefore (which pretty nearly coincides with the commencement of factory legislation here) a substantial advantage might seem to have been gained for workers. But this appearance was to a large extent delusive. Though the Combination Laws were thus got rid of, there still remained on the statute book, and were continually accruing to it, a number of legislative enactments whose object was little different, and which were capable of being manipulated to a like purpose. After all the administration of a law is the really important thing, and these were administered according to the prevailing political and economical notions of the day. The "Corresponding Societies and Licensing of Reading Rooms Act" (39 George III., c. 72),[1] and the "Act for the more effectually preventing Seditious Meetings and Assemblies" (41 George III., c. 30), are instances of these enactments; and others dealing with un-

[1] It is in respect to the passing of this Act that Sir Erskine May says:—"The series of repressive measures was now complete. . . . The popular constitution of England was suspended."—"Constitutional History of England," by Sir Thomas Erskine May, Vol. II., p. 330 (Longmans, 1878).

lawful oaths and the liberty of the Press might be added. They were manœuvred so as to almost entirely suppress freedom of meeting and discussion. It is easy to see in how hopeless a position such legislation really left the workman. On the one side he was constrained by an unrelenting natural tendency into a course of conduct he reprobated; on the other he was forbidden to combine effectively with his fellow-workmen to neutralise it, and visited with persecution and cruel punishment if detected in doing so.

PREVIOUS LABOUR LEGISLATION.

Nor were the above the only disabilities that labour suffered in its passage from under a personal to under a commercial form of control, but far otherwise. When we hear of Factory Acts in our time we assume them as a matter of course to be acts in restraint of overwork, but what shall we say of some all the opposite,—in which the hours of labour were prescribed (as Mr. Jevons says)[1] "not by way of limitation, but by imposition,"—yet such was the character of the celebrated Statute of Apprentices. This famous law (which was not formally repealed till 1814) enacted that "from the middle of the month of March to the middle of September, all artificers and labourers hired by time were to be and continue at their work at or before five o'clock in the morning, and continue at work and not depart until betwixt seven and eight of the clock at night—two and a half hours in the course of the day being allowed" (as he puts it) "for meals and drinking," so that (continues the same writer) "the legal day's work was to be twelve hours *at the least*." At other seasons it was to be from daybreak to night: and "no

[1] "The State in Relation to Labour," p. 35.

maximum period is mentioned." Nor did even this severe measure exhaust the positive disadvantages—in addition of course to those of an indirect kind—under which labour was pursued at the commencement of the modern factory era, for it was not until 1795 that a workman could legally travel in search of employment out of his own parish, nor until 1812 that the power of the magistrates to compulsorily fix his wages at Quarter Sessions was withdrawn. Furthermore, these laws were enforced or not as the masters (who were their authors) pleased, but never at the discretion of the worker; and finally in many instances—to the confusion of all justice and order—they did not apply at all. The Statute of Apprentices was limited in operation to towns corporate, and industries already existing when it was passed;[1] so that new ones were left to shift for themselves, under the fostering care of the competitive principle and in full view of the other protected ones. Sometimes, where it did apply, it was not applied; through laziness, or indifference, or design; and few incidents in the history of the English working class (says Mr. Howell)[2] are more pathetic than the story of the struggle maintained by the London silk weavers for the greater part of a century to keep themselves under the petty thraldom of such a law as the above rather than face the dreaded alternative. This industry was in existence when the Statute was passed, and was therefore subject to it. But supervision had long been neglected; and towards the middle of the eighteenth century "in con-

[1] This was owing to the construction put upon it by the Court of Queen's Bench. The Common Law of England has always shown itself extremely favourable to industrial freedom in a sense favourable to masters.

[2] "Conflicts of Capital and Labour," p. 110.

sequence of the competition of employers, and their attempts to undersell each other," the wages of workmen had been considerably lowered. Continual disputes followed; strikes became frequent; and, "in several instances deeds of violence were committed by the exasperated workmen, and much property was destroyed." Parliament now passed a series of enactments called the Spitalfields Acts (13 George III., c. 68; 32 George III., c. 44; 57 George III., c. 7) to regulate the matters in dispute; but the masters "did not obey them from the first," and ultimately compassed their repeal. The "immediate effect," we are told, was "the total disorganisation of the industrial condition of the workers," for, "by the growth of the system of *sweaters*[1] and half-pay apprentices, the journeymen were driven to famine and the female workers to prostitution."[2] Such a story recalls the familiar metaphor of the captive hugging his chains, or the case of those slaves who have been known to protest against their own emancipation. But, as with them too presumedly, there was a crueller possibility for the worker than either legislative chains or political slavery; there was a deadlier and more relentless foe; that economical slavery namely, which they too clearly foresaw would surely replace them.

THE FIRST FACTORY ACT.

Thus victimised on all sides; unprotected by the State, or even legislated against; exposed in the name of freedom to the greed of unscrupulous employers and the terrors of un-

[1] This is almost the first mention I have found anywhere of this ill-omened word. There will be something to be said about it hereafter (chap. viii.). Meanwhile it is a pity that Mr. Howell (or Brentano, from whom the above passage is almost literally quoted,) has not defined its signification at this time.

[2] *Idem*, 114.

limited competition; yet practically forbidden to combine against the evil consequences of such a position; his life and fortune at all times at the caprice of ignorant Justices should he strive to strike out an independent line of life, the British workman was already brought low when the modern factory system came to add the last drop to his cup of bitterness and launch him on an unknown series of new experiences and privations. And thus it came about that, as we have elsewhere noticed,[1] the first cry for ameliorating those new conditions did not proceed from the ranks of the operatives themselves. They were too depressed indeed to give articulate utterance to it, even when they clearly realised the nature of the case. The most, as a rule, they could do was to brood sullenly over their wrongs, real and imaginary: their traditional modes of industry displaced, their familiar implements of labour superseded, their homes broken up and children tempted away to serve strange (industrial) gods: or, bursting occasionally into fits of passionate anger, wreak a wild and unreasoning vengeance, to be followed presently by a fearful retribution. Attention was first drawn to the evils associated with the improved methods of production by onlookers, in the interest (as they explained themselves) of their own health,[2] and the first Factory Act ever brought before parliament was—to his lasting honour be it said—introduced by a master manufacturer, the first Sir Robert Peel. It is an extremely interesting and curious statute in view alike of subsequent legislation and of the still comparatively primitive condition of things and primitive modes of regarding them,

[1] Chap. v. [2] *Idem*, p. 198.

that it displays. Its title is "*The Factory Health and Morals Act*, 1802" (42 George III., c. 73), and it applied principally to apprentices. In introducing it Sir Robert Peel based his argument for interference mainly on ethical grounds, and on the disadvantages at Common Law which apprentices were under in comparison with other members of the working community. The ordinary law did not afford such persons proper protection in an era of keen competition; therefore (he declared) the State should. The preamble explains more exactly its scope and purposes. It ran thus:—

"Whereas it hath of late become a practice in cotton and woollen mills, and in cotton and woollen factories, to employ a great number of male and female apprentices, and other persons, in the same building, in consequence of which certain regulations are become necessary to preserve the health and morals of such apprentices and other persons: be it therefore enacted . . . that from and after the 2nd day of December 1802 all such mills and factories within Great Britain and Ireland, wherein three or more apprentices, or twenty or more other persons, shall at any time be employed, shall be subject to the several rules and regulations contained in this Act."

The principal regulations were the following:—

1st.—All the rooms in a factory were to be limewashed twice a year and duly ventilated (Sec. II.). 2nd.—Every apprentice was to be supplied with two complete suits of clothing; one new suit every year; with suitable linen, stockings, hats and shoes (Sec. III.). 3rd.—Their hours of work (the apprentices') were not to exceed twelve a day, nor commence before six in the morning, nor conclude after nine at night (Sec IV.). 4th.—They were to be instructed every working day during the first four years of apprenticeship in reading, writing, and arithmetic "by some discreet and proper person," the time so occupied to be counted out of their hours of work (Sec. VI.). 5th.—Male and female apprentices were to be provided with separate sleeping apartments, and not more than two to sleep in one bed (Sec. VII.). 6th.—On Sunday they were to be instructed in the principles of the Christian religion. They were to comply with various religious ordinances during their apprenticeship; and to go to church once a month at least (Sec. VIII.). 7th.—Two visitors were to be appointed by the adjacent Justices of the Peace, one of whom must be himself a Justice and the other a member either of the Church of England or of the Church of Scotland, to enforce the provisions of the Act (Sec. IX.). 8th.—In case of infectious disorders prevailing, these visitors may require the employer to call in medical assistance (Sec. X.)

9th.—Copies of the regulations of the Act were to be affixed in conspicuous places (Sec. XII.). A list of the factories in his district was to be kept by every Clerk of the Peace (Sec. XIV.). Penalties are enacted for breaches of the law (Sec. XI., XIII.), and the method of recovering them (Sec. XV., XVI.) is provided for.

The requirements of this Act, we have said, are interesting in several points of view besides the interest attaching to them intrinsically. They show that the new industrial system had not yet emerged from that transitional phase when mills were built in unfrequented places, and it was necessary to provide for their working by lodging apprenticed workers sent from a distance, and one infers from it what were the chief factory industries of which complaint was made. Its application was to cotton and woollen factories: therefore cotton and woollen factories were the establishments considered especially faulty. It imposed no limit of age on workers, we note, nor required any proof of fitness for employment. The provisions about clothing, medical attendance, and religious teaching clearly point to a time when the relations between employer and employed were closer and more intimate than they have since become; when something of paternal authority lingered about the former, and the link that united these partners in production was not a purely mercenary one. It was an important statute as being the first definitely in restraint of modern factory labour, and in general opposition to the *laisser faire* policy in industry, a genuine attempt, it would seem, to supply in some sort the place which the guilds had formerly held in trade organisation. It must always be remembered, however, that it did not apply to *free labour*. That great fight had yet to come. In practice it proved inoperative. The duty cast on the factory visitors was an

invidious one, for which no recompense was provided, and they failed to carry it out. But it had great influence on the progress of the factory controversy nevertheless; first, as a precedent, and encouragement to further effort; second, by enlightening parliament and public opinion in regard to abuses hitherto but little known and less noticed; and thirdly by constraining employers to give up apprentice labour, placed now at a disadvantage when compared with all other kinds. To this last effect too, in union with the adoption of a new motor in manufacture, is to be attributed the next forward move.

EXTENSION OF THE PRINCIPLE OF INTERFERENCE.

The introduction of steam-power having removed the necessity for erecting factories in water-abounding, and generally remote districts, and suggested their establishment in populous places instead,[1] the children brought into such mills did not need to be apprenticed, and worked accordingly without participating in the protection of the first Factory Act. Sir Robert Peel brought this matter before the House of Commons on the 6th of June 1815, and proposed a new measure applying to all children alike, employed as above. Such a proposal really marked a long step forward in the principle of government interference with labour, little as it was then perceived, and constituted, with the debate that followed, a definite epoch in the progress of the controversy.

"It was well known," Sir Robert Peel said, in introducing his Bill,[2] "that a bad practice had prevailed of condemning children, whose years and

[1] Chap. iii.

[2] "Hansard's Parliamentary Debates," first series, Vol. XXXI., pp. 624-7.

strength did not admit of it, to the drudgery of occupations often severe, and sometimes unhealthy. What he was disposed to recommend was, that no children should be so employed under the age of ten years, either as apprentices or otherwise, and the duration of their labour should be limited to twelve hours and a half per diem, including the time for education and meals, which would leave ten hours for laborious employment. The accounts he had recently seen showed that it was not so much the hardship as the duration of the labour which had produced mischievous effects on the health of the rising generation. It was to be lamented, however, that the inspectors appointed under a late Act, had been very remiss in the performance of their duties. He should, in consequence of this misfortune, propose that proper persons be appointed at Quarter Sessions and that they should be paid in due proportion for their trouble. It was gratifying, however, to learn that the loss of life had been exceedingly small, not exceeding one per cent. per annum; a loss falling short of the average loss sustained in every other class of manufacturing industry. As he was desirous that the measure he was now suggesting should be put into the most perfect state that was attainable, he should submit that the Bill for which he intended to move should be read a first time, and then printed. During the recess it might be circulated through the country, and receive the proper amendments. It could, if it should be found necessary to guard against the arts of designing men, be afterwards made a part of this Bill that no engagement contracted after this period, in violation of the provisions of the Bill should be lawful. Under these considerations, he moved for leave to bring in a Bill, 'to amend and extend an Act, made in the forty-second year of his present Majesty (George the Third), for the preservation of the health and morals of apprentices, and others employed in cotton and other mills, and cotton and other factories.'

"Mr. W. Smith expressed his cordial approval of the Bill

"Mr. Horner observed that the former measure, and even the present Bill, as far as he could understand its object, fell far short of what Parliament should do on the subject. The practice which was so prevalent of apprenticing parish children in distant manufactories was as repugnant to humanity as any practice which had ever been suffered to exist by the negligence of the Legislature. These children were sent often one, two, or three hundred miles from the place of their birth, separated for life from all their relations, and deprived of the aid and instruction which in their humble and almost destitute situation they might derive from their friends. The practice was altogether objectionable on this ground, but even more so from the enormous abuses which had existed in it. It had been known that with a bankrupt's effects, a gang, if he might use the word, of these children, had been put up to sale and were advertised publicly as part of the property. A most atrocious instance had been brought before the Court of King's Bench two years ago, in which a number of these boys, apprenticed by a parish in London to one manufacturer, had been transferred to another, and had been found by some benevolent persons in a state of absolute famine. Another case more horrible had come to his knowledge while on a Committee up-

stairs; that not many years ago an agreement had been made between a London parish and a Lancashire manufacturer, by which it was stipulated that with every twenty sound children one idiot should be taken. A practice in which there was a possibility that abuses of this kind might arise should not be suffered to exist, and now, or in the next session, when the Bill should be discussed, should meet with the most serious consideration." Mr. Philips and Mr. Holme Sumner having spoken approvingly, "leave was given and the Bill was afterwards brought in and read a first time."

These proposals were received very quietly at first, no immediate legislation on them being contemplated; but when their real scope came to be perceived, as after a while it did, they called into existence, says "Alfred," "the germs of what subsequently became an active opposition." Those amongst the millowners who were opposed to all factory regulation, of course opposed them, and others tried to induce their author to alter the form of his motion into a proposal for a Committee of Inquiry, that time at all events might be gained; and in this latter endeavour they were ultimately successful. "He was ever anxious ("Alfred") to conciliate his opponents, a desire very creditable to his heart, but in the then existing state of parties by no means favourable to the speedy success of the measure of which he was the exponent. . . . . He was conscious of the justness and practical utility of the cause he advocated, and like many other men of good intentions, gave to opponents credit for openness to conviction, and conscientious candour, not always well placed"; . . . . . and, in fine, "to the anxiety of the first Sir Robert Peel to conciliate opposition, then comparatively powerless in numbers and influence, may be attributed," this well-informed writer thinks, "the protracted struggle for factory legislation" that ensued. There is much cogency in this reasoning. It agrees too with the

opinion of Mr. Owen, recorded on a former page,[1] that had Sir Robert Peel gone boldly in for a large measure of reform at this time he would have carried it, on account of his exceptional position and authority on manufacturing matters. Unfortunately he adopted the contrary course; and when he next addressed the legislature on this subject it was to limit both the scope of his demand and of his general arguments in support of it. For the details of what occurred on this occasion we turn again to "Hansard."[2]

On the 3rd of April, 1816, "Sir Robert Peel rose in pursuance of a previous notice, to submit a motion to the House respecting the state of children employed in cotton manufactories. The object of his motion was altogether national, as it affected the health and morals of the rising generation, and went to determine whether the introduction of machinery into our manufactories was really a benefit. The principal business in our cotton manufactories was now performed by machinery, and of course interrupted the division of work, suitable to the respective ages of workers, which formerly was practised in private houses. The consequence was that little children of very tender age were employed with grown persons at the machinery, and those poor little creatures, torn from their beds, were compelled to work, even at the age of six years, from early morn to late at night, a period of perhaps fifteen or sixteen hours. He allowed that many masters had humanely turned their attention to the regulation of this practice, but too frequently the love of gain predominated, inducing them to employ all their hands to the greatest possible advantage. Some time ago he had introduced a Bill into the House for regulating the work of apprentices, which was attended with the happiest results, and their time was limited; but children were still subjected to all the hardships to which carelessness or cupidity might expose them. The House were well aware of the many evils that resulted from the want of education in the lowest classes. One object of the present Bill was to enable manufacturing children to devote some of their time to the acquirement of a little useful simple knowledge, such as plain reading and writing. He hoped those poor children would experience the protection of the House, for if it were not extended to them all our excellent machinery would be productive of injury. It might, perhaps, be said that free labour should not be subjected to any control; but surely it could not be inconsistent with our Constitution to protect the interests of those helpless children. The honourable Baronet concluded with moving that a Committee be appointed to take

[1] Chap. v., p. 209.

[2] "Parliamentary Debates," first series, Vol. XXXIII.

into consideration the state of the children employed in the different manufactories of the United Kingdom, and to report the same, together with their observations thereupon, to the House."

Mr. Finlay defended the character of the cotton manufacturers as a body. In particular "he would venture to affirm that the cotton mills of Glasgow were not only situated most advantageously for health, but were conducted on the most liberal plan."

Lord Lyttleton said he was persuaded it would be found impossible when the committee went into the business, to apply such a Bill as was brought forward last session to all the manufactories in the kingdom.

Mr. Curwen took that opportunity of protesting against the principle of legislation for the regulation of the authority of parents over their children, who must be best aware of the quantity of work those children were able to bear, and who must undoubtedly feel most for their distresses. Such a proceeding was a libel on the humanity of parents. He had, however, no objection to a committee.

Mr. Gordon earnestly supported the motion. Mr. Courtenay and Mr. Wrottesley were in favour of enquiry.

The motion was agreed to, and a committee appointed.

The foregoing brief statements of proceedings in the House of Commons furnish some notable features. We notice, in the first instance, that the real principle of factory legislation: the propriety of interfering for the regulation of so-called free labour: was now for the first time coming under discussion; its true nature being almost wholly unperceived meanwhile; and in the second place, the limitation of the enquiry to only one kind of manufacture (a distinctly retrograde step). We observe, in the third place, that Sir Robert Peel had in these later utterances somewhat shifted his argument, from a concern for the moral and religious condition of the workers, as in 1802, to a concern (in 1815) chiefly for the shorter duration of their labour, and now (in 1816) for their protection on account of alterations effected in their condition by improved machinery. These varying views of the principal interests at stake were far from being accidental. They responded to changes slowly making their way in the minds of thinkers

as to the rightful province of the State in respect to industry, changes coincident with the continued spread of the doctrines of human liberty only temporarily diverted from their proper channel by the excesses of the French Revolution. They exhibited already one of the most characteristic features of factory legislation; which we shall have occasion to often refer to again; the empirical and illogical grounds, namely, upon which the demands for it were from the first, and have quite up to the last, been based. The philosophy of the revolutionary era had had the result of raising the masses of the people from the state of political and moral tutelage which had hitherto been considered their proper lot; and it had somehow overlooked the economical arena in this emancipating process. But the defect was not an irremediable one. Only the groping a way out of this error was a long and tortuous process, for it had to be performed in the teeth of apparently quite valid deductions from that very standard of rectitude which it had itself set up.

THE FIRST PARLIAMENTARY INQUIRY.

The committee appointed on Sir Robert Peel's initiative commenced its sittings in 1816, and from the limited nature of its reference, and the manner in which it was procured, and manœuvred throughout, was foredoomed to failure. Its proceedings and conclusions were alike contemptible. Nevertheless, much of the testimony given was of a striking and impressive kind, as it could scarcely fail to be. Medical men of the highest attainments and experience (in factory districts and elsewhere) spoke of the absolute impossibility of supporting healthy life under circumstances such as were shown to be not unusual in the new factories;

and other witnesses (conspicuous amongst whom was Mr. Nathaniel Gould, a public-spirited and philanthropic merchant of Manchester) told of the absence of all instruction there, which was a disgrace and danger of the situation. Sir Robert Peel submitted a powerful statement in writing; "the substance of five and forty years' experience;" which wound up with the following appeal: "I most anxiously press upon the committee that unless some parliamentary interference takes place, the benefits of the Apprentice Act will soon be entirely lost, the practice of employing parish apprentices will cease, their places will be wholly supplied by other children between whom and their master no permanent contract is likely to exist, and for whose good treatment there will not be the slightest security. Such indiscriminate and unlimited employment of the poor, consisting of a great proportion of the inhabitants of trading districts, will be attended with effects to the rising generation so serious and alarming that I cannot contemplate them without dismay, and thus that great effort of British ingenuity, whereby the machinery of our manufactures has been brought to such perfection, instead of being a blessing to the nation, will be converted into the bitterest curse."[1] Some testimony on the other side was no less remarkable. One manager of a firm, said to be "employing in its various works no less than 7,000 persons,"[2] and "representing the opinion of twenty-four others," contributed a statement intended to prove that employment in cotton factories, not only "was not more

[1] "Report of the Minutes of Evidence, taken before the Select Committee on the State of Children employed in the Manufactories of the United Kingdom, 1816." Sir Robert Peel's evidence, p. 133.

[2] "Alfred," p. 57.

than other employments injurious to health or morals, but was on the contrary" individually and nationally advantageous, and held that parliamentary interference would only "create great misunderstandings and unhappiness in families." Another produced before the committee a tabular statement intended to prove the actual *superiority* of the health "of children employed in factories over those employed in other trades"; and yet another, "handed in documents, signed by clergymen, magistrates, and others, setting forth the excellent condition of all employed in cotton factories in various parts of the counties of Nottingham and Derby"—in which counties it will be remembered were situate those model ones where Robert Blincoe had the good fortune to be engaged. This committee was in fact a fiasco; the amount of credence to be attached to many of the statements made before it being well demonstrated afterwards by Mr. Peel (the future Prime Minister) when, in addressing the House of Commons on the subject, he showed, that whereas the average death-rate in England at that time was about 1 in 50, and in very unfavourable instances as high as 1 in 74, it had been given in evidence that in the cotton factories it was only 1 in 445! If this evidence were to be trusted, he said, "instead of debating such a Bill as was then before them, application ought to be made at once to the Legislature for the erection of cotton mills for the purpose of further and more effectually providing for the health of his Majesty's liege subjects."

RESULTING LEGISLATION.

After running the gauntlet of the House of Commons Sir Robert Peel's Bill had next to submit to a similar ordeal in the House of Lords, and when the result did come at

length it was not worth having. The evidence given upon this last occasion differed little from that given before, except that the opponents of legislation made even more vigorous, and now almost frantic efforts to stop the current of events, which they realised was setting more obviously against them every day. Thus, one gentleman, "a surgeon and apothecary of Bingley," on being asked the question: "Is it not in your judgment as a medical man necessary that young people should have a little recreation or amusement during the day?"—boldly answered, "I do not see it is necessary"; and another medical gentleman, "of twenty-four years' experience in Manchester," doubted indeed "whether a child could work twenty-three hours without suffering," but when pressed as to whether he would extend the doubt to *twenty-four* could only reply that it was "not in his power to assign any limit." He should think, however, the latter feat "extremely improbable." Still another made a brilliant effort to distance even this practitioner. Asked if the inhaling of dust and cotton fibre were not injurious to health, he declared himself quite unable to say; and when invited to explain why not, suggested that the bad effects "were counteracted by constant expectoration." "And is not constant expectoration injurious to health?" asked another member of the committee. "That," replied the witness, with admirable gravity, "depends upon a variety of facts." At length in 1819, a new law (59 George III., c. 66) was passed, applying, like the last one, exclusively to cotton mills. It forbade the employment of children in such factories up to nine years of age, and limited the hours of work for all persons under sixteen to

twelve per day, less 1½ for meals; the number of hours per week was fixed at seventy-two; and some special modifications were made for recovering time lost by defect or excess of water, at the rate of an additional hour per day. These enactments, wretched in design, were even more inefficient in action. They contained no proper provision for inspection, nor for the compulsory attendance of witnesses if a prosecution were instituted, and were consequently, in the vast majority of cases, completely set at nought. Mr. Nathaniel Gould brought these new facts under the attention of parliament, appealing to it again on behalf of the factory children, on the grounds that Sir Robert Peel, and the reports of the two first committees, had now made familiar. Some further abortive attempts at legislation followed, but nothing was really done till Sir John C. Hobhouse, subsequently Lord Broughton and at that time member for Westminster, took the matter in hand. In 1825 he introduced a measure (6 George IV., c. 63) aiming at a re-arrangement of hours in the operatives' favour and at increasing the power of magistrates in dealing with violations of the law. It was not an important measure, but it was a well-intentioned one. On the second reading its rejection was moved by Mr. Hornby, M.P. for Preston, and an eloquent speech was delivered on the other side by Sir Francis Burdett. "We heard of slavery abroad," he exclaimed indignantly, "but good God! did we ever hear of any such instances of overworking as had been published with respect to the labour of children in the cotton manufactories?" The Bill ultimately passed the second reading, but was vigorously attacked in Committee, and came out considerably altered. Sir J.

C. Hobhouse had proposed an aggregate day of eleven hours instead of twelve, which was altered to a twelve hours day for the first five working days of the week, and nine hours on Saturday;[1] a total therefore of sixty-nine hours a week instead of seventy-two. This Act applied again exclusively to cotton mills, and special and detailed penalties were enacted for breaches of it, some difficulties that arose in its construction being provided against by another Act passed four years later (10 George IV., c. 51), and a few trifling explanations added by still another of the same year (10 George IV., c. 63). Two years later these last four were all repealed, and a new Act (1 and 2 William IV., c. 39), at first intended to apply to all textile factories, was introduced by Sir J. C. Hobhouse, seconded by Lord Morpeth, and presented to the House of Commons. This was of a far more comprehensive character than any of its predecessors. It proposed to limit the hours of work in the case of all young persons under the age of eighteen years to eleven and a half per day (less meals) for the first five days of the week, and to eight and a half on Saturday; no person to be employed at all under nine years of age, and no person under twenty-one to be employed at night. In introducing it Sir J. Hobhouse complimented the master manufacturers on their changed tone of feeling towards factory legislation. The opposition to his previous Bill had come, he said, largely from them, but in the present instance he believed they were with him. He pointed out with force and justice the disadvantage at which the law-abiding employer was placed compared with

[1] This provision is notable as the first step towards the Saturday half-holiday.

the defaulter by the imperfect and inefficient manner in which the law had hitherto been administered, and strongly urged the House to support his measure. These compliments to manufacturers were a little premature. Sir J. C. Hobhouse had in mind a few public-spirited and far-seeing men with whose opinions he was acquainted; the bulk of the employers were against him, as were also, almost to a man, the economists, as he soon found out. Once again the old tactics were repeated; the measure was manœuvred and mutilated in Committee, and emerged at length a mere shadow of its former self, legislation was (for the last time) confined exclusively to cotton factories, and the single important advantage gained was the prohibition of night work in the case of persons under twenty-one years of age in those alone.

THE TEN HOURS BILL.

This result was very discouraging to the promoters of factory legislation in parliament, but its effect among well-wishers out of doors was of the opposite kind. It was to stimulate further agitation.[1] The repeated discussions the subject had now received had drawn popular attention more largely to it, and the very devices for delaying a settlement that had been adopted, namely the continual reference to committees of enquiry, had but had the effect (with the resulting evidence collected) of more fully instructing the public mind as to the reality and magnitude of the evils complained of. If government could be moved to do something in this matter, it was argued —why not also—something more? If it were permissible to oppose the "laws of Political Economy" to

[1] Compare p. 387.

a limited extent for the sake of humanity, might not the enterprise be repeated? Accordingly, it is to this period of apparent defeat that the most ambitious project yet mooted, the heaviest demand on the legislature yet made, belongs. Oastler had now thrown himself into the fray; Lancashire and Yorkshire had joined hands in the battle.[1] The cause was no longer in need of able and accomplished leaders either: in Parliament or out of it: was not now a local but a national one. In response to the rejection of Sir J. C. Hobhouse's proposal for an ordinary work-day of eleven and a half hours and nine on Saturday, the operatives proudly replied by a demand for days of ten and eight respectively; and on the 20th of October 1831 Oastler gave formal expression to this demand in a letter contributed on their behalf to the *Leeds Intelligencer*. We have not elsewhere quoted any of the "Factory King's" public effusions, and as the present is an extremely characteristic specimen, we shall here give some extracts from it, in full discharge of all past and future obligations in that regard. It was headed:

"SLAVERY IN YORKSHIRE."

"TO THE WORKING CLASSES OF THE WEST RIDING OF THE COUNTY OF YORK.

"MY FRIENDS,—Sir J. C. Hobhouse's Bill for shortening the hours of labour in ALL factories is lost! Yes, the Bill, on which you had fixed your fondest hopes, is vanished! Aye, my friends, that Bill which had enlivened the hearts of your poor factory children, which had for once implanted the gleam of hope in *their* hearts, and taught *them* to chaunt in songs of praise the name of Hobhouse—is abandoned by its author! Your hopes—your infants' hopes, are suddenly blighted! Your fond anticipations of your children's happiness and liberty are for a season blasted. The harps which your little ones had prepared to attune in grateful strains to the songs of liberty must now be hung upon the willows—for how can they sing the song of freedom in the land of tyranny? Bend not, however, to despair—but

[1] Compare chap. v., p. 215.

trust in God, and in yourselves—the God of Justice, of mercy, and of truth, still reigns—and He will plead your cause and make the unfeeling iron-hearted masters erewhile relent; but if they still resist, and steel themselves against His laws, in anger He will speak, and make the oppressors quake.

* * * * * *

"After all, we are told we live in the land of liberty; and if we attempt to rescue British infants from slavery, we are, forsooth, the friends of the slave trade, and are only raising the hue and cry to turn the attention of the nation from West Indian slavery. Yes, my fellow-countrymen, this has been said a thousand times since the factory system was exposed. The real friends of tyranny have put on the mask of philanthropy, and, with the cry of 'no slavery,' would rivet the chains upon *your* children, all the time persuading you they are the only 'Liberals' of the day. From such turn away! And be ye assured that no man, be his pretensions what they may, can really wish to emancipate the poor black slave in the West Indies, who refuses you his aid and assistance in emancipating *your* children from a state of slavery more horrid than that by which the infants of the slaves in the West Indies are cursed . . . Be duped no longer! Let no promises of support from any quarter sink you to inactivity. *Consider that you must manage this cause yourselves*, nor think a single step is taken so long as any constitutional effort is left untried. Establish, instantly establish, committees in every manufacturing town and village, to collect information *and publish facts*. The public, generally, do not know what it is; then tell them how it has gone on destroying the health and morals of the people; how it operates in families by preventing the growth of those parental and filial affections which nature has implanted in every breast, but which this hateful system habitually eradicates. Show also how the baneful effects of the destruction of these feelings, afterwards, operate on society! Tell, how the factory system beggars the industrious domestic manufacturer! *Count, if you can, the hundreds of respectable families who have been driven from comfort and independence by the all-powerful operation* of this monopolising system . . . Tell the shopkeeper, the butcher, the farmer, and the artisan, how this destructive system curtails the income of his customers, and increases the demands upon his funds. Yes, yes! bring all these facts before the public, and show the hideous monster in his native glare. Then ask, shall he go on conquering and to conquer, *until the manufacture of the empire is concentrated under one large roof, and the world is supplied by one gigantic firm?* Till human nature is almost physically and morally destroyed, *and all the inhabitants of this land* shall be the slaves of one great manufacturing nabob . . .

"Can it be believed that in England, in the nineteenth century, in a 'reforming' House of Commons, a Bill limiting the hours of labour for children of nine years of age in ALL factories to twelve per day, should have been refused, because it was 'too liberal!' Kind Heaven! and do we live in a Christian country? *And will not the ministers of Jesus interfere?* Every man who really and truly hates and abhors slavery must and will 'come over and help us' to destroy this horrid system of slavery in York-

shire . . . Let your politics be 'TEN HOURS A DAY, AND A TIME-BOOK'; and whoever offers himself as a candidate at any future election, unless he will solemnly pledge himself to these two points, REFUSE HIM YOUR SUPPORT! Don't be deceived: you will hear the cries of—'No slavery'—'Reform'—'Liberal principles'—'No monopoly,' &c. But let your cries be: 'No Yorkshire slavery'—'No slavery in any part of the empire'—'No factory-mongers'—'No factory-monopolists.' If you are determined, rest assured you will succeed. Your children will be liberated from a bondage greater than they would have inherited had they been born of negro slaves. Once more: be not led astray by the perpetual cry of 'Liberal principles.' Depend upon it, the man who will refuse to 'liberate' your children is neither 'Liberal' nor a 'hater of slavery.' Now then, my friends, for 'a long pull, a strong pull, and a pull altogether!' Victory is yours, if you are true to yourselves! *Let the tyrant know that you have sworn*, 'OUR CHILDREN SHALL BE FREE!' I am, my friends, a sincere enemy to slavery in every form, in every part of the world, and your sincere well-wisher,

"RICHARD OASTLER.

"Fixly Hall, near Huddersfield, *Oct. 10th*, 1831."

To fully appreciate many of the allusions in this remarkable letter it must be remembered that the year 1831 was one of great political excitement, consequent on the Reform agitation, an agitation largely promoted by Radicals and Dissenters, whilst Oastler was a Tory and Churchman. Read in cold blood a great deal of it may seem sorry stuff now, but launched at a critical moment, and viewed in connection with the political aspects of the factory controversy sketched in a former chapter,[1] it is not to be wondered at that it assumed the character of an important political manifesto. Its immediate effect was to displace Sir J. C. Hobhouse from the parliamentary leadership of the movement, and to substitute Mr. Sadler; its ultimate effect to provide a definite policy, and an easily-comprehended rallying cry, around which all branches of the agitation could henceforth concentrate. The very boldness of such a step was one of its chief recom-

[1] Chapter iv.

mendations, if only on the well-known commercial principle that it is always better to ask for more than you are willing to take. But it had its drawbacks. Confirmed enemies were strengthened by it in their enmity; the already timid were further alarmed; and even a few friends were alienated. Sir J. Hobhouse, writing to Oastler on the subject professed a confident belief that "nothing can be more idle than to talk of the possibility of limiting the hours of daily work to ten for five days, and to eight on Saturday," and ventured a prophecy, that "Should Mr. Sadler make the effort which he seems to contemplate, of limiting the hours of labour to *ten*, you may depend upon it he will not be allowed to proceed a single stage with any such enactment, and, so far from producing any beneficial effects, he will only throw an air of ridicule and extravagance over the whole of this kind of legislation." "I trust," he continued, "that on mature reflection that very respectable gentleman will adopt a more useful course of conduct, and in that case he may depend upon my exertions, such as they are, to second and encourage his honourable labour."[1] The very respectable gentleman did, nevertheless, introduce his measure into the House of Commons (as we have seen),[2] and on March 16th of the following year (1832) moved its second reading in a speech of extraordinary argumentative power, cogency, and comprehensive eloquence, which made, as it was entitled to do, a deep impression.[3] The reply on behalf of the Ministry was delivered by Lord Althorp, then Chancellor of the

[1] Quoted in Grant's "History of Factory Legislation," p. 27.
[2] *Ante*, chap. v.
[3] It will be found in Hansard, Third Series, Vol. II., pp. 340-85.

Exchequer. He charged Mr. Sadler with having stated only one side of the question, condemned his proposals as hasty and ill-advised, and whilst admitting that some regulation was required to prevent cases of extreme hardship and oppression, advised that "the House should proceed in the matter with the utmost caution." He concluded in the following words, which well represented the feeling of the majority of members towards the question at that time: "I am not prepared to pledge myself in any way with respect to this measure. Even if the Committee should report favourably of the Bill, I will not pledge myself before the report is made to support a measure of such vast importance. I do not feel justified in saying that whatever the opinion of the Committee may be, I will abide by their decision. The honourable gentleman (Mr. Sadler) has, I think, done perfectly right in referring this measure to a select committee. Although he seems to think that a more public investigation would be more desirable, I am inclined to believe that the examination by a select committee is more likely to elicit the truth than an examination at the bar of this House. I hope that, by the exertions of the Committee, the whole question will be fairly brought under the consideration of the House."

It was only too true. The strong opposition to Mr. Sadler's measure was such as to force him, much against his will, to accept the old dilatory device, and the whole subject was referred yet again to the arbitration of a parliamentary committee. Over this very important committee he was himself called on to preside. The other gentlemen forming it were Lord Morpeth, Mr. Strickland, Mr. Heywood, Mr. Wilbraham,

Mr. George Vernon, Mr. Bennett, Sir Henry Bunbury, Mr. Poulet Thompson, Mr. Dixon, Sir John Cam Hobhouse, Mr. Horatio Ross, Mr. Robinson, Mr. Meynell, Mr. Percival, Mr. Boldero, Lord Nugent, Mr. Shiel, Sir George Rose, Mr. Attwood, Mr. Ridley Colborne, Mr. Kenyon, Mr. Fowell Buxton, Mr. Estcourt, Mr. John Smith, Mr. John Weyland, Lord Lowther, Mr. Hope, Mr. Moreton, and Mr. Lennard; to which were afterwards added the names of Mr. Bainbridge, Sir Robert Peel, Mr. Gisborne, Lord Sandon, Sir Robert Harry Inglis, Sir Henry Willoughby, and Mr. Mackinnon. The evidence they accumulated and the recommendations they subsequently made, formed the most important events in the history of factory legislation that had yet occurred.[1]

PROGRESS IN PARLIAMENT.

This Committee set to work at once, and proceeded with great vigour. Already by the end of the parliamentary year a huge mass of evidence was available. But a heavy blow was in store for the factory reformers. The constitutional reformers had this same year (1832) brought their labours to a successful issue, and in the autumn parliament was dissolved for an appeal to the new constituencies. Mr. Sadler sat for the borough of Newark, which the Reform Bill disfranchised, and he had accordingly to seek a seat elsewhere. He offered himself first for Leeds and next for Huddersfield, and in both places—to the despair and dismay of his supporters—was rejected. The rest of the story has been told elsewhere.[2] The reformed Parliament met without him; but another

[1] A short abstract of some of the evidence is given at the end of this chapter.

[2] Chapter v.

had stepped into his place; and the enemies of factory legislation found themselves confronted by the fine presence and noble personality of Lord Ashley as the new leader of the movement.

The new leader lost no time in assuming the responsibilities of his position. He immediately gave notice for the re-introduction of Mr. Sadler's Bill on the 5th of March 1833. Early as this was Lord Morpeth had been before him, with a notice dated the 5th of February, his object being to promote a compromise between what he considered the extreme pretensions of the Ten Hours Bill and the more modified scheme of factory reform favoured by himself and Sir J. Hobhouse. But the Government had now determined to take the initiative themselves. The question had become too important and too complicated, they thought, to be dealt with any longer by independent politicians, however well intentioned. A motion for the appointment of a Royal Commission to visit the factory districts and collect information on the spot was made by Mr. Wilson Patten (afterwards Lord Winmarleigh), seconded by Lord Morpeth, and supported by them, and how pressing the emergency really was the result of the division (74 to 73) by which even this bold policy escaped defeat unmistakably proved. In little more than a fortnight afterwards the Commission was actually issued. The gentlemen composing it were Francis Bisset Hawkins, Thomas Southwood Smith, Sir David Barry, Thomas Tooke, Leonard Horner, John Elliot Drinkwater, Robert Mackintosh, James Stuart, John Wilsford Cowell, Edward Carleton Tufnell. Alfred Power, Edwin Chadwick, Stephen Woolriche, John Spencer, and Charles Lowdon. Mr. John Wilson was the secretary.

FIRST ROYAL COMMISSION.

The appointment of this Commission, though really a turning-point in the history of factory legislation, was (says "Alfred") "decidedly objectionable to the factory operatives and their friends." "They maintained that on all important points full evidence had already been collected, and that the real object of the Government was to procure only such further evidence as would warrant a departure from Mr. Sadler's Bill." They urged that a Royal Commission was not a proper body under any circumstances for the duty imposed, because "every enquiry ought to be open, and the evidence taken subject to cross-examination," and they very generally refused to give it any assistance. In view of such opposition the commissioners had a difficult task before them. By most of the workpeople in the manufacturing districts their presence was even resented, they were themselves subjected to contumely, and much valuable evidence was withheld. On arrival in Manchester, a formal protest against their proceedings was published by the leaders of the operatives, and indignation meetings organised—a principal feature in which was a parade of factory children and deformed workpeople, under the windows where they lodged. In Leeds and Bradford like scenes occurred: the proceedings in Yorkshire being further enlivened by a well-sustained verbal contest between Messrs. Sadler and Oastler on the one side, and some of the commissioners on the other: and at Stockport, Glasgow, and other northern towns, similar displays were provided. Unfortunately, the Government had afforded some grounds for these suspicions. Their instructions to the commissioners were partial and unwise, and these had laid themselves equally open to animadversion in regard to

instructions issued by them to assistant commissioners. As late as June 3rd, Lord Ashley complained of "bad faith" on the part of Lord Althorp in the matter; and on the same day *The Times* published an article describing the instructions given by the central board to its subordinates as a "mass of impotent and stupid verbiage." Notwithstanding all discouragements however, they persevered, and with almost incredible despatch got together a large amount of valuable information. In little more than *two months* from the date of their appointment, viz., on the 25th of June 1833, their first report was presented, and to the surprise of friend and foes alike was distinctly in favour of legislation.

"Its principal conclusions were the following:—

"1st. That the children employed in all the principal branches of manufacture throughout the kingdom work during the same number of hours as the adults.

"2nd. That the effects of labour during such hours are, in a great number of cases, permanent deterioration of the physical constitution; the production of disease wholly irremediable; and the partial or entire exclusion (by reason of excessive fatigue) from the means of obtaining adequate education, and acquiring useful habits, or of profiting by those means when afforded.

"3rd. That at the age when children suffer those injuries from the labour they undergo, they are not free agents, but are let out on hire, the wages they earn being received and appropriated by their parents and guardians.

"We are, therefore, of opinion that a case is made out for the interference of the legislature on behalf of the children employed in factories."

There was no gainsaying such conclusions, reached by commissioners appointed as these were, and further legislation became at once imperative.

LORD ALTHORP'S ACT.

The friends of the operatives were nevertheless not satisfied. They from the first had made up their minds not to be satisfied, and they persisted in regarding this favourable re-

port as merely a portion of a well-concerted scheme to rob them of the benefits of the Ten Hours Bill. For this belief there were undoubtedly some grounds of justification, though not to the extent they pretended. It is certain that the Government were anxious to compass the destruction of that project, but they were not unwilling to give something substantial instead. This measure itself had meanwhile been re-introduced in a somewhat amended form; a new clause particularly offensive to masters (proposing to inflict imprisonment without the option of a fine on an employer guilty of a third breach of the law) having been inserted; a proposal which went nigh to creating a serious split in the ransk of the reformers themselves. Lord Ashley was anxious to drop it; as were Mr. Sadler, Mr. Wood, and some other judicious friends; while Oastler, Bull, and several of the more enthusiastic members of the party not only insisted on retaining it, but denounced in violent language those who differed in opinion from them. This was an opportune moment for the Government to step in. On the Bill reaching the committee stage (July 18th) it was met by a proposal on the part of Lord Althorp, now Prime Minister, for its withdrawal in favour of one they should bring forward, and on a division Lord Ashley was beaten by the overwhelming majority of 238 to 93.

It remained to the victors now to produce their measure, and as rapidly as the clauses of one could be drafted, they were put together, laid before both Houses of Parliament, and passed into law. The statute that emerged (3 and 4 William IV., c. 103) frequently cited as Lord Althorp's Act, was by far the most important Factory Act yet passed, and it has formed the basis of all

subsequent legislation. It may be summarised in the following terms:—It provided, that "from and after the first day in January, one thousand eight hundred and thirty-four, it shall not be lawful for any person whatsoever to employ in any factory or mill, except in mills for the manufacture of silk, any child who shall not have completed his or her ninth year." That "from and after the expiration of six months after the passing of this Act, it shall not be lawful for any person whatsoever to employ, keep, or allow to remain in any factory or mill, as aforesaid, for a longer time than forty-eight hours in one week, nor for a longer time than nine hours in any one day, except as herein provided, any child who shall not have completed his or her eleventh year of age, or after the expiration of eighteen months from the passing of this Act, any child who shall not have completed his or her twelfth year of age, or after the expiration of thirty months from the passing of this Act, any child who shall not have completed his or her thirteenth year of age, provided, nevertheless, that in mills for the manufacture of silk, children under the age of thirteen years shall be allowed to work ten hours in any one day." Daily attendance at school for at least two hours was also provided for; and two whole and eight half holidays in the year. Surgical certificates of age were for the first time required; and for the efficient carrying out of the law four Factory Inspectors appointed, to whom very large powers (including in some instances a penal jurisdiction concurrent with that of magistrates) were confided. No person under the age of eighteen (instead of twenty-one) was to be employed at night; *i.e.*, between the hours of 8.30 p.m. and 5.30 a.m.; and children and young persons were to mean respectively persons

between 9 and 13, and between 13 and 18 years of age. No mention is made of any religious obligation on employers. The terms "mills and factories," continually in use, are not defined, but an incidental interpretation of their statutory meaning is afforded in part of section I. where the operation of the Act is confined to "any cotton, woollen, worsted, hemp, flax, tow, linen, or silk mill or factory, wherein steam or water or any other mechanical power is or shall be used to propel or work the machinery in such mill or factory," with some inconsiderable exceptions. Its relation to preceding enactments is settled by section forty-eight, repealing 1 and 2 William IV., c. 39; which had in its turn repealed the previous Acts, 59 George III., c. 66; 60 George III., c. 5; 6 George IV., c. 63; and 10 George IV., cc. 51, 63; but not 42 George III., c. 73 (the Apprentice Act), which therefore remained still in force. In a general sense it applied to all textile manufactures where motive power other than human was employed, and to those alone; and to all persons (male and female) under the age of eighteen years employed in them; and no others. Its actual purpose was stated in unequivocal terms in the preamble: "Whereas it is necessary that the hours of labour of children and young persons employed in the mills and factories should be regulated, inasmuch as there are great numbers of children and young persons now employed in mills and factories, and their hours of labour are longer than is desirable, due regard being had to their health and means of education, be it, therefore, enacted." . . &c., health and education being thus the prime motives assigned for action, as contrasted with "health and morals" which formed the

foundation of the first Factory Act (1802). Still more generally considered, it brought factories which were already under inspection, under inspection of a more efficient kind; and it first formally recognised compulsory education as a function of Government.

THE EVIDENCE FOR INTERFERENCE.

Upon what grounds now was this strong measure rendered necessary? Hitherto we have but touched on the great mass of official evidence in favour of factory legislation that had by this time been accumulated; we could wish there were no need to do more. But for reasons that have been already stated (chap. v.) there is no proper option in this matter; nay, for those reasons it is especially important that official testimony should be brought to supplement outside testimony, which might otherwise—and naturally—incur the suspicion of being exaggerated. The dreadful story of Blincoe's sufferings is by no means one of isolated wrongdoing, highly coloured to excite popular sympathy; it would be far more truthful to say of it that it but typified a large number of similar cases which have borne the severest tests as to accuracy that able, ingenious, and interested men could apply. It is our duty to make these facts plain, and we propose to do so at the end of the present chapter by quoting some specimens of the evidence taken before that committee over which Mr. Sadler presided, and which immediately preceded the passing of Lord Althorp's Act. These will be curtailed as much as is consistent with clearness. They will apply only to the manufacture of fabrics other than cotton; for of those a good deal has been said already; and will no longer be confined to apprenticed,

but free labour. They are abbreviated from an already abbreviated report in Alfred's "History of the Factory Movement" (Vol. I., pp. 275-303). In all, eighty-nine witnesses were examined before this committee; and eleven thousand six hundred and eighteen questions were asked and answered. We suppress the names of persons implicated, which may however be all found in the original.

The first testimony to be called comes from an observer of the scenes depicted rather than an actor in them.

Abraham Whitehead, examined :—

"I am a clothier, and reside at Scholes, near Holmfirth, which is the centre of very considerable woollen mills for three or four miles; I live near the centre of thirty or forty of them, and have had constant opportunity of observing the manner in which these mills are regulated and conducted, and I have observed them for at least the last twenty years. The youngest age at which children are employed is never under five, some are employed between five and six as pieceners. In the summer time I have frequently seen these children going to their work as early as five or six in the morning, and I know the general practice is for them to go as early to all the mills, with one or two exceptions; I have seen them at work in the summer season between nine and ten in the evening; they continue to work as long as they can see, and they can see to work as long in these mills as you could see to read. In winter there is a variation; some of the mills begin to work at six o'clock, and some only begin so soon as they can see to work in the morning, but many of them begin by six, or between five and six in winter time. I have been in mills at all hours, and I never in my life saw the machinery stopped at breakfast time at any of the mills. The children get their breakfast as they can; they eat and work; there is generally a pot of water-porridge, with a little treacle in it, placed at the end of the machine, and when they have exerted themselves to get a little forward with their work, they take a few spoonfuls for a minute or two, and then to work again, and continue to do so until they have finished their breakfast. This is the general practice not only of the children, but of the men, in the woollen mills in the district. There is not any allowance for the afternoon refreshment, called 'drinking,' more than for breakfast. In summer, some of the mills allow an hour for dinner, and others, forty minutes. There is no time allowed in winter, only just sufficient to eat their dinner; perhaps ten minutes or a quarter of an hour; and in some cases, they manage the same at noon as they do at breakfast and drinking. The children are employed as pieceners; they, when at work, are always on their feet—they cannot sit and piece.

"I have seen children during the last winter (1832) coming from work

on cold dark nights between ten and eleven o'clock; although trade has been so bad with some of the mills that they have had nothing to do, others have been working seventeen or seventeen and a half hours per day. This requires that the children should be awakened very early in the morning. I can tell you what a neighbour told me six weeks ago—she is the wife of Jonas Barrowcliffe, near Scholes—her child works at a mill nearly two miles from home, and I have seen that child coming from its work this winter between ten and eleven in the evening; and the mother told me, that one morning this winter the child had been up by two o'clock in the morning, when it had only arrived from work at eleven; it then had to go nearly two miles to the mill, where it had to stay at the door till the overlooker came to open it.

"The children are generally cruelly treated. It is a very difficult thing to go into a mill in the latter part of the day, particularly in winter, and not to hear some of the children crying for being beaten. How they are beaten depends upon the humanity of the hubber or billy-spinner; some have been beaten so violently that they have lost their lives in consequence; and even a young woman had the end of a billy-roller jammed through her cheek. The billy-roller is a heavy rod of from two to three yards long, and of two inches in diameter, and with an iron pivot at each end; it runs on the tops of the cordings over the feeding cloth. I have seen the billy-spinner take the billy-roller and rap children on the head, making their heads crack, so that you might have heard the blow at the distance of from six to eight yards, in spite of the din and rolling of the machinery; many have been knocked down by the instrument. I knew a boy very well of the name of Senior, with whom I went to school; he was struck with a billy-roller on the elbow, it occasioned a swelling. He was not able to work more than three or four weeks after the blow, and he died in consequence. There was a woman in Holmfirth who was beaten very much with a billy-roller. This which is produced (*showing one*) is not the largest size, there are some a foot longer than that; it is the most common instrument with which these poor little pieceners are beaten—more commonly than with either a stick or a strap. I have seen them frequently struck with the billy-roller. I never saw one so struck as to occasion its death, but I once saw a piecener struck on the face by a billy-spinner with his hand until its nose bled very much; and when I said 'Oh, dear, I would not suffer a child of mine to be treated thus,' the man has said, 'How the devil do you know but what he deserved it.'"

We will next cite the testimony of an overlooker, James Paterson:—

"I reside at Dundee, am twenty-eight years of age, and my business is a mill-overseer. I have been acquainted with the mill system in Dundee and neighbourhood for a long time. At ten years of age I entered a mill. I worked in the carding-room, which was very dusty. There were fourteen hours' actual work, and fifteen hours a-day confinement, including meals. I suffered from shortness and stoppage at the breast, and was forced to leave in consequence. Other children were similarly affected. I had a brother who was at that work too, and he was compelled to leave from bad health,

and was laid up and died of consumption. The doctor said it was occasioned by being confined at that work. My brother died at eighteen years of age; he had orginally a good constitution.

* * * * * * *

"I worked at Mr. ——'s mill, of Duntruin; there we worked as long as we could see in summer time, and I could not say at what hour it was we stopped. There was nobody but the master and the master's son had a watch, and we did not know the time. The operatives were not permitted to have a watch. There was one man who had a watch. I believe it was a friend who gave it to him; it was taken from him and given into the master's custody, because he had told the men the time of the day. There was no clock at that mill. There were a great many children in proportion to the number of adults, most of them were orphans. There was a part of them that came from Edinburgh, and a part of them from Perth. There were some of the orphan children from Edinburgh who had been in the mill, I believe, from four to five years. The children were incapable of performing their day's labour well towards the termination of the day; their fate was to be awoke by being beaten, and to be kept awake by the same method. They were under that mode of treatment kept on the premises by being locked up while at work; they were guarded up to their bothies to take their meals, and were locked up in the bothies at night, and the master took the key away with him to his own bedroom; they were guarded to their work, and they were guarded back again, and they were guarded while they were taking their meat, and then they were locked up for rest. The windows of the bothies where they slept had all iron stanchions on the outside, so that they could not escape. They were not allowed to go to a place of worship on the Sunday: they were guarded on the premises by the master or his son. There were twenty-five or twenty-six of us together. There was one bothy for the boys, but that did not hold them all, and there were some of them put into the other bothy along with the girls. The ages of the boys that were put into the girls' bothy might be, I should suppose, from ten to fourteen, the ages of the girls, perhaps, from twelve to eighteen.

"The children and young persons were sometimes successful in their attempts to escape from labour and confinement. I have gone after them on horseback and brought them back myself. Those brought back were taken into the mill, and got a severe beating with a strap; sometimes the master kicked them on the floor, and struck them with both his hands and his feet. Those who had made engagements for any length of time, when they ran away, the master, if he could not find them before they got home to their relations, if they had any, he sent after them and put them in gaol. I knew a woman put in gaol, and brought back after a twelvemonth, and worked for her meat; and she had to pay the expenses that were incurred. There were some engaged for two years, and some as far on as three years, and some of those girls sent from Edinburgh, I heard them say, were engaged for five years. That girl that was sent to prison worked two years for nothing, to indemnify her master for the loss of time while she was in the course of punishment, but there was a sister who came to work nine months or so to help her to perform the two years.

"When the hands worked those long hours, the master came himself and roused them in the morning, and those that would not rise, I have seen him take a pail of water and throw it upon them, to make them rise. One of the means taken to secure those children and young persons from running away was that their clothes, if they had any not in use, were kept locked up, so that if they ran away they could only run away with what was on their backs. Those children were at times beaten very violently."

Let an ordinary factory operative speak next and describe some of the results of factory labour in his own person. Joseph Habergam:—

"I reside at Northgate, Huddersfield, in Yorkshire. I was seventeen years of age on the 21st of April. I have been without a father six years on the 8th August—my mother survives. I was seven years of age when I began to work at Bradley Mill, near Huddersfield; the employment was worsted spinning. The hours of labour at that mill were from five in the morning till eight at night, with an interval for rest and refreshment of thirty minutes, at noon; there was no time for rest and refreshment in the afternoon. We had to eat our meals as we could, standing or otherwise. I had fourteen and a-half hours' actual labour when seven years of age; the wages I then received was two shillings and sixpence per week. I attended to what are called the throstle machines; this I did for two years and a half, and then I went to the steam looms for half-a-year. In that mill there were about fifty children, of about the same age as I was. These children were often sick and poorly. There were always, perhaps, half-a-dozen regularly that were ill because of excessive labour. The work was not very hard, but having to work so very many hours made it worse; it was rather hard of itself, but it would have been better if we had not had so long to stand. We began to grow drowsy and sleepy about three o'clock, and grew worse and worse, and it came to be very bad towards six and seven. I had still to labour on. There were three overlookers; there was a head overlooker, and then there was one man kept to grease the machines, and then there was one kept on purpose to strap. Strapping was the means by which the children were kept at work. It was the main business of one of the overlookers to strap the children up to this excessive labour—the same as strapping an old restive horse, that has fallen down and will not get up. This was the practice day by day. The overlooker is continually walking up and down with the strap in his hand, and his office is to strap the children on to their labour. The children could not be kept so long to their labour, if they were not so treated. It was reckoned by the children to be very bad usage; towards the end of the day the flies of the machines would burst their knuckles. Accidents were frequent. The children were not capable of performing the amount of labour that was exacted from them without perpetual cruelty. I had at that time, similarly occupied, a brother and sister, his name was John, and her name was Charlotte. I cannot say how old my sister was when she began to work in the mill, but my brother John was

seven. They were often sick; my brother John died three years ago—he was then sixteen years and eight months old. My mother and the medical attendants were of opinion that my brother died from working such long hours, and that it had been brought about by the factory.

"Mill labour has had a great deal of effect on my own health. I have had to drop it several times in the year. When I had worked about half a year, a weakness fell into my knees and ankles; it continued, and it has got worse and worse. It was attended with very great pain, and the sense of extreme fatigue. Under these circumstances I had to work as often as I could, otherwise not any allowance would have been made to me by the occupier of the mill. I live a good mile from the mill; it was very painful for me to move; in the morning I could not walk, and my brother and sister used out of kindness to take me under each arm, and run with me to the mill, and my legs dragged on the ground in consequence of the pain; I could not walk, and if we were five minutes too late, the overlooker would take a strap, and beat us till we were black and blue. The overlooker knew the occasion of our being a little too late; we have stated to him the reason, but he never minded that, he used to watch us out of the windows. The pain and weakness in my legs increased.

[The witness, by request, stood up, and showed the committee his limbs.]

"I was as straight and healthful as anyone when I was seven years old."

* * * * * * *

Here is another dreadful statement:—

"One part of the discipline of those mills is profound silence. They will not allow the children to speak. If two are seen speaking, they are beaten with the strap. The masters encourage the overlooker to treat the children in that manner. I have seen them when the master had been standing at one end of the room, and two of the overlookers speaking to him, if he has chanced to see two girls speaking to each other, he has said 'Look yonder at those two girls talking,' and he has run and beat them the same as they beat soldiers in the barrack-yard for deserting."

Imagine the pitiful condition of those little ones, not even allowed to speak for all these long hours! But the masters of this factory were swindlers as well as ruffians.

"Out of the thirty minutes allowed for dinner, five minutes and sometimes ten were occupied in cleaning the spindles. On Saturday night we gave over at six o'clock, after which time we used to be made to fettle the machines, which took an hour and a half. Sometimes, during the time I worked at Bradley Mill, the clock was a quarter of an hour too soon in the meal time; we had just done fettling, and we had but half got our dinners, and the overlooker put the clock forward to one, and he rang the bell, and we were obliged to run back to our work. This was not an uncommon practice. During the two years and a half I was at that mill, there were about a dozen of the children who died."

Of another factory where he was employed this same witness says :—

"When trade was particularly brisk I was obliged to work from five in the morning till half-past ten, sometimes till eleven. On one occasion I worked all Friday, Friday night, and Saturday."

Benjamin Gummersil :—

"I reside in Bowling Lane, Bradford, in Yorkshire, and am now sixteen years of age. I have been employed in piecening at a worsted mill. The hours of labour were from six in the morning to seven, and half-past seven and eight at night; half an hour was allowed at noon for dinner—not any time was allowed for breakfast or 'drinking.' As a child, I found the employment hard and laborious. I entered the mill at nine years of age: my father was obliged to send me to the mill in order to keep me. If we are higher than the frames we have to bend our bodies and our legs—so. [Here the witness showed the position in which he worked.] I was a healthy and strong boy before I went to the mill. When eight years old I could walk from Leeds to Bradford without any pain or difficulty, and did not in consequence feel much fatigue. I had worked about a year for those long hours before I found my limbs begin to fail. The failing came on with great pain in my legs and knees; I felt very much fatigued towards the end of those days—then the overlooker beat me up to my work. I have been beaten till I was black and blue in my face, and have had my ears torn. I have been cruelly chastised—once I was very ill with it. I was beaten because I had mixed a few empty bobbins, having not any place to put them into separate. I was generally beaten most at the end of the day, when I grew tired and fatigued. In the morning I felt stiff, very stark indeed; I was beaten in the morning as well, but not so much as towards the latter end of the day. I continued to attend the mill after my limbs began to fail. After I became deformed, I did not get on so well with my work as I could before. I got less in height. I cannot exactly say how tall I am now. I have fallen several inches in height. I had to stand thirteen or fourteen hours a day frequently, and was constantly engaged as I have described. [The witness, at the request of the Committee, exhibited his limbs, 'and they appeared to be exceedingly crooked.'] I was perfectly straight before I entered upon this labour. There were other boys deformed in the same way."

The next evidence to be quoted comes from a flax mill.

Elizabeth Bentley :—

"I am twenty-three years of age, and live at Leeds. I began to work at Mr. Busk's flax mill when I was six years old. I was then a little 'doffer.' In that mill we worked from five in the morning till nine at night when they were 'throng'; when they were not so 'throng,' the usual hours of labour were from six in the morning till seven at night. The time allowed

for our meals was forty minutes at noon; not any time was allowed for breakfast or 'drinking'; these we got as we could. When our work was bad, we had hardly any time to eat them at all; we were obliged to leave them or take them home. When we did not take our uneaten food home the overlooker took it and gave it to his pigs. I consider 'doffing' to be a laborious employment. When the frames are full, the 'doffers' have to stop them, and take the 'flyers' off, and take the full bobbins off, and carry them to the roller, and then put empty ones on, and set the frame going again. I was kept constantly on my feet; there were so many frames, and they ran so quick, the labour was excessive, there was not time for anything. When the 'doffers' flagged a little, or were too late, they were strapped. Those who were last in 'doffing' were constantly strapped—girls as well as boys. I have seen the overlooker go to the top end of the room, where the little girls 'hug' the can to the 'backminsters'; he has taken a strap, and a whistle in his mouth, and sometimes he has got a chain and chained them, and strapped them all down the room.

"I worked in the card-room; it was so dusty that the dust got upon my lungs, and the work was so hard. I was middling strong when I went there, but the work was so bad and I got so bad in health, that when I pulled the baskets down, I pulled my bones out of their places. The basket I pulled was a very large one; that was full of weights, upheaped, and pulling the basket, pulled my shoulder out of its place, and my ribs have grown over it. That hard work is generally done by women; it is not fit for children. There was no spinning for me, and I therefore did that work. They gave me five shillings a week, the women had six shillings and sixpence. As a spinner, I had got six shillings. The hands were constantly leaving, because of the unhealthy nature of their employment, and the excessive labour they had to endure. The employment made us very thirsty. We drank a deal of water in the room. It was not so very hot as in the summer time. In the winter it was necessary to have the windows open; it made no matter what the weather was, and sometimes we got very severe colds in frost and snow. We were constantly exposed to colds, and were made ill by that cause also. Then I had not much food to eat, and the little I had I could not eat, my appetite was so poor. My food being covered with dust, it was no use to take it home. I could not eat it, and the overlooker took it, and gave it to his pigs.

"I have had experience in wet spinning—it is very uncomfortable. I have stood before the frames till I have been wet through to my skin; and in winter-time, when myself and others have gone home, our clothes have been frozen, and we have nearly caught our death from cold. We have stopped at home one or two days, just as we were situated in our health; had we stopped away any length of time we should have found it difficult to keep our situations.

"I am now in the poor-house at Hunslet."

But one more witness and we have done.

Mr. Gillett Sharpe, Keighley, examined :—

The witness having detailed the results of excessive labour on members of his own family, was asked:—

"Have you reason to think that any of the children lose their lives in consequence of this excessive degree of exertion?—I have no doubt in my mind that such has been the case, and I may mention one instance of the kind. Four or five months back there was a girl of a poor man's that I was called to visit; it was poorly; it had attended a mill, and I was obliged to relieve the father in the course of my office (assistant-overseer), in consequence of the bad health of the child. By-and-bye it went back to its work again, and one day he came to me with tears in his eyes. I said, 'What is the matter, Thomas?' He said, 'My little girl is dead.' I said, 'When did she die?' He said, 'In the night; and what breaks my heart is this, she went to the mill in the morning, she was not able to do her work, and a little boy said he would assist her if she would give him a halfpenny on Saturday; I said I would give him a penny,' but at night when the child went home, perhaps about a quarter of a mile, in going home she fell down several times on the road through exhaustion, till at length she reached her father's door with difficulty, and she never spoke audibly afterwards; she died in the night.

"What was the illness of the child when you saw it at the parent's house?—It seemed to be exhaustion, general debility, and weakness of body.

"Was there any medical person called in to visit her?—Yes; he asked me to send a doctor to visit her, and give her what he thought proper.

"What was the doctor's opinion?—I do not know, I never spoke to the doctor; he gave her something, and she got better then.

"You cannot say what was the matter with her?—No, but I could not help noticing, and it brought tears to my eyes, though the child did not belong to me, to think that she should have to work the last day of her life under such circumstances.

"Do you believe her indisposition was caused by working in the factories?—If she had been at home, instead of being confined in the factory, she would have been in a different situation.

"How old was the little girl?—I cannot speak exactly to her age; I judged she might be ten years old.

"How long was this mill working in the day?—I cannot speak to that; I have no doubt it worked from six to seven.

"Had the child any specific disease that you know of?—No, I do not know that she had."

It was after listening to this last evidence that the chairman of the committee retiring to the solitude and comforts of his own chamber wrote those pathetic lines "The Factory Girl's Last Day," some of which have been quoted in a previous chapter.[1]

[1] Chapter v.

CHAPTER VIII.

PROGRESS OF THE FACTORY SYSTEM.

General Considerations—Some Limits to Progress—Reversions of Type—The Sweating System—Home Industry—Legislation and Home Industry—The Narrative Resumed—General Progress of the United Kingdom—Abroad—At Home—Manufacturing Progress of England—Scotland—Ireland—The Factory System Abroad—Increased Facilities of Communication—Effects of these on the Factory System.

GENERAL CONSIDERATIONS.

To trace in detail the progress of the modern factory system throughout the third epoch into which we have roughly divided it, namely during the last fifty years, is beyond the purpose of this undertaking. Full details would obviously occupy more space than we have at command, and anything short of such—were details given—not merely be inadequate but could scarcely fail to be misleading. They are accessible, moreover, in profusion elsewhere: in books of reference and the works of statisticians: where they properly occupy the first place. It will accord better with the objects we have consistently kept in view, in bringing the subject nearer to a close, to continue instead that more comprehensive and superficial treatment of it adopted from the outset, ever regarding the matter to be dealt with less from the technical and industrial than the social side, and seeking rather to mark a track that others may take hereafter than assuming to tread it with confidence ourselves.

Considered in this way then, and first with special reference to our own country, the progress during the period named will appear as one of degree rather than of kind.[1] We have been chiefly engaged, throughout it in assimilating the changes brought about in previous periods, of applying them in other industries, and observing the results. Nor does it require much reflection to realise how and why it has come thus about. The modern factory system is attributable to an unprecedented, and (as it were) fortuitous concurrence of events; it was not the natural and inevitable sequel of any. It is a complex of many factors, several of them quite new to history. A congregated mode of industry, in which, nevertheless, the individual is the unit; a free industry, and under the strictest economical bondage; an industry served by the most perfect labour saving appliances ever known, yet in which (without the strong compulsion of the law) the labour-rendered is longer, closer, and more unintermittent than ever before; a method wherein the motive-power is in an ever-increasing number of instances procured from energies outside the range of human resources. Such a combination is unparalleled in the history of mankind, and it has yet to prove its claim to be a permanent one. It occurred, moreover, at an unparalleled conjuncture of human affairs. Had machine-industry, for example, been applied to the factory system in any other epoch or any other country; had it lacked the impetus conferred upon it by the invention of the steam-engine;[2] had our social organisation, and theory of political economy been other than what it was,

[1] Compare chap. iii., p. 131.
[2] P. 96.

the story of its development would certainly have been different. Coming when, and where, and how it did, its prodigious energy swept all before it for a while; its astonishing successes dazed and confused the judgment of most contemporary observers; and its amalgamation with other marked tendencies of the day took place immediately, spontaneously, and in spite of every opposing interest.

SOME LIMITS TO PROGRESS.

So extraordinary a rate of progress could not of course be maintained for long. However difficult it be to assign limits to the possibilities of mechanical invention and the division of labour, limits to both must exist somewhere; machines cannot be made to think as well as act; human functions cannot be split up indefinitely while human organs remain what they are; and their adjustment to human needs must cease at length when the requirements to which they can possibly minister are pretty nearly satisfied. A break will occur somewhere in the series, however long deferred. There is even likely to be experienced at such a time what in other departments of thought are called "reversions of type," a harking back that is to former conditions and features, submerged rather than obliterated by the rush of change. Such a "reversion" is believed by some to be marking the close of the third half-century of manufacturing progress in England. There are signs (they say) of the development of the modern factory system being arrested here not merely as to its *rate* but as to its *scope*. In several directions a revulsion of feeling against machine-made goods is declared to be manifesting itself,[1] and a

[1] Thus, in England, there is the Langdale linen industry, which is all manual; in Ireland, the Connemara and Donegal industries; and there has

few industries that not long since adopted factory methods are found already seceding from them.[1] Such signs are very pertinent. They indicate a possibly æsthetic, in addition to the physical and other limits to the triumphs of the factory system, and suggest a point at which not merely its progress, but even its adjustments, might cease. After all, even if it be quite true that supply can never outrun demand commodities might become at length so inferior as to be scarcely worth the having, and one of the principal utilities of the factory system be thus jeopardised; or a disgust of vulgar ostentation might follow on a period of devout worship of it and the production of wealth itself be held in comparatively small regard.[2] In such, and in similar conceivable circumstances, effective limits would be set to its progress from a side that is little suspected now.

But another and more immediately threatening limit is one that has already shown marked symptoms of development on the side of labour. The wondrous spectacle of modern mechanical improvements, in union with minute sub-divisions of employment, has not been altogether lost on workers, who are beginning to ask with increasing persistence, how it is that machinery is not more completely their friend than it ever has been, why this division of labour should not bear more fruit in their enjoyment of the product than it does, if they are bound to accept as final this concentrated form of economical control at all? Up to the present these

lately been started a society for the encouragement and preservation of Indian handicraft arts, with a central office in London, and several branches on the spot.

[1] For examples see *infra* pp. 321-4.

[2] How seldom in the whole history of mankind mere wealth, as such (*i.e.*, as those things only which possess exchange value), has been held of the first importance was shown in chap. vi.

questions, and what has followed on them, have taken the form principally of opposition to the visible symbols of the despotism, and of demands for its amelioration in certain parts. The operatives have struck against long hours, against low wages; they have accepted their position within the manufacturing system itself as a matter of course. This may not be so always. The last half century has witnessed a strong current setting in the direction of raising the political as well as economical position of labourers, and even if this process proceeds no farther than it has done it is capable of setting very definite limits to the progress of the factory system. If it proceed much farther it is capable of wholly revolutionising and superseding it.[1]

There is another consideration not less pertinent. The very perfection to which machinery is being brought may ultimately operate against the factory system. It may be no longer necessary to erect great buildings to contain it and employ foreign motors to move it, for each separate machine may become at length so perfect as to be equally efficient if isolated and only worked by hand; or a congeries of machines in a large establishment may be brought to serve each other with such precision as to demand a merely nominal superintendence. Anyone acquainted with the latest improvements in corn-milling will know how nearly this last result is to being already realised; some recent improvements in knitting machines may be cited in view of the earlier possibilities. There is also the reverse limit; of the imperfection of even

[1] On all this branch of the general question, the ingenious, if often far-fetched, arguments of Marx on (so-called) "Surplus Value" should be studied. They will be found in "Capital," Vol. I., part iii.

the best machines. No effective mechanical substitute has ever yet been found for the seemingly most suitable process of fustian-cutting by hand;[1] in sewing, the best work is even now done by manual labour; and that perfectly barbarous implement the "Oliver" remains still (in some small metal industries) worked by hand and foot in spite of every effort to replace it.

Lastly, there is a varying and self-regulating economic limit. Labour may be divided too much, even from the purely commercial point of view, till at length the number of workers intermediate between the raw material and finished product becomes so large as to swallow up all the profit of the work. The place and the plant requisite for modern factory industry may be too expensive.[2] Fuel may fail or be too dear.[3] The spread of the factory system, like any other economical growth, must vary in proportion to the cost of its production, and this being in excess of the advantages conferred by modern methods *manufacture* would return to its earlier modes and meaning.[4]

REVERSIONS OF TYPE: THE SWEATING SYSTEM.

One reversion from the modern type closely related to the last consideration is exemplified by the practice that prevails in an increasing degree in some classes of factories of giving out work to be done under a system of

[1] A process of raising a pile or nap on cloth for the making of velvets and velveteens.

[2] This last result is most likely to occur where profits are low, rent high, and there is a keen competition amongst employers. It has already occurred in the industry of Letter-press Printing in London—a very important one under the Factory Acts. Several large firms have now printing offices in the country villages, or are in the habit of distributing their work among such, owing to the great value of London ground rents. Notoriously too a large proportion of the books published in the Metropolis are sent to Scotland to be printed.

[3] Compare chap. x.

[4] Chap. ii., p. 74; "Introduction to Factory System," p. 12.

sub-contract in workpeople's own homes. It has come to be called the "Sweating System," and there is a common impression that it is a novelty. This is a very false impression, as is the scarcely less usual one that work so performed must necessarily be performed under unhealthy conditions, and in a manner injurious to both producers and consumers. The method in question, leaving out for a moment the element of a sub-contract, is no more nor less than that of "Home Industry": as vigorously advocated in some (and often the same) quarters under this name as it is heartily denounced under the other: or including the sub-contracting element, the only necessarily unhealthy thing about it is the perennial unhealthiness (nay atrocity) of unregulated competition in human labour. It is of course no special "system" at all.[1] Sub-contracts are equally familiar under the factory, the domestic, or any other method of production; and not less so in mining, building, engineering, and many other forms of enterprise. They are amongst the commonest instances of division of labour.[2] As for the fancy that such a form of employment is a new or necessarily unhealthy one, the least knowledge of earlier industrial conditions

[1] "Sweating," says Mr. Schloss, in an article "*What is the Sweating System?*" published in the *Charity Organisation Review*, February 1889, "is the undue advantage which is taken of labour. . . . . Labour is liable to be sweated under any and every system of employment." "Grinding the faces of the Poor," is a description of it quoted from the Report of the House of Lords Committee; and more lately still it has been defined by the Executive of the London Liberal and Radical Association as "a condition of industry under which workers are practically compelled to work at starvation wages for excessive hours and under insanitary conditions."

[2] If anyone desires to know, however, what the real sweating system is, or *was*, it is to be found admirably described in "Alton Locke," and in "Cheap Clothes and Nasty," by "Parson Lot"; both of which works may moreover now be bought bound up together at an extremely moderate price (Macmillan & Co., 1888).

should dispose of the first assumption, while a single piece of evidence, taken from the Report of the Committee of the House of Lords that recently sat to consider this subject, may be relied on to demolish the second.[1] It is contributed by a gentleman availing himself of such means for the production of cheap clothing (the typical example of "sweating") to be disposed of afterwards at his shops in London. This is what he says:—"Lots of them" (the portions of clothing) "go down into Hampshire, and into certain parts of Essex and Suffolk. They are sent down to all the agricultural districts. They are distributed there by intermediate men. We send them down to a man, for instance . . . . . by rail at night; the man would receive them in the morning, and he would in all probability do the machine work upon his own premises, and take them out in a van, and deliver two to this cottage, and two to that, and two to the next; or this man would drive twenty miles through country lanes and deliver them in all the agricultural districts to certain people; then he would go down and pick up those and leave others in their stead, and when they are finished they would be sent back to London again" (evidence of Mr. Hollington, p. 894).[2] A like system prevails in the districts of which Colchester, Norwich, and Ipswich are the centres; and in the north of Ireland. There are similar industries in Scotland; in Lancashire; Yorkshire; and over the country generally. Now what are the above but those veritable idyllic conditions of employment of 100 to 150 years ago, so often

[1] This work, in *five vast volumes*, is now accessible to the public. The last contains some judicious recommendations.

[2] First Report of Select Committee on The Sweating System (361).

extolled? Was it not just thus the master-spinners left the yarn to be woven at the hand-loom weavers' cottages, for which they themselves called afterwards, or had conveyed to them by an intermediary—the sweater of his time? Have we not found the same method in constant operation in the earlier silk industry,[1] the woollen industry,[2] stocking industry,[3] wrought-iron industry:[4] nay possibly under the long past civilisations of ancient Rome and ancient Egypt?[5] Where too among these unsophisticated and rural surroundings are the necessarily unhealthy conditions? The cottages of course may be insanitary, and overwork and immature labour be known in them; as all these evils may occur in towns; and the implication would be then (we suppose) that they are evils unknown in factories. Yet what but those very ones were the chief objections to the early factories: what but precisely such allegations, and the melancholy proofs of their correctness, gave rise to the Factory Acts?

HOME INDUSTRY.

Two prominent errors possess the public mind about the relation of home industries to the factory system. The first that they are all manual; the second, that they have never been brought under inspection, like factory industries. The former mistake is connected with that very difficult distinction between a machine industry and an industry in which machinery is only added to abridge (not supersede) manual labour, and is a natural and pardonable one. In the minds of many—nay, in the minds of most—people this distinction is inappreciable, and many capable writers ignore it. Yet even that extreme use of machinery which in their thoughts is identi-

[1] P. 92. [2] P. 64. [3] P. 67. [4] P. 108. [5] P. 30.

fied only with the factory system is known to home industry, and may become better known. Were those cottagers at Coventry, for instance,[1] who had steam-power supplied them from a central engine employed under the factory system; or was it not rather machine industry introduced at home? Or take the Sheffield trades; principally the manufacture of articles of cutlery and the like; there are a few large firms employing factory methods, but a great proportion of cutlers work in their own houses, or in workshops attached, where the use of exterior motive power is let out to them at a rent. In what respect are these places —where an individual operative turns out an individual finished product—factories? They are only accounted so by law, as many others are where no machinery at all is used?[2] As for manual machines, they have formed part of home furniture from immemorial times, and the sewing machine is in that regard but the lineal successor to the loom. Further, they have affected handworkers almost as much as ever factory machines have done. They have excited quite as much odium. Who that has ever read it is likely to forget—for instance—that passage in the life of Thomas Cooper[3] where he describes the appalling condition of the Leicester stocking weavers, about the year 1840, all of whom were employed on manual machines? "As we passed out into the street," he writes, "I was surprised to see the long upper windows of the meaner houses fully lighted, and to hear the loud creak of the stocking frame." (This was at 11 p.m.!) "'Do you stocking weavers

[1] Compare chap. iii., p. 158.

[2] See next chapter; p. 400, *et infra*.

[3] "The Life of Thomas Cooper, Written by Himself," p. 137 (Hodder & Stoughton, 1869).

often work so late as this?' I asked of some of the men who were leaving the meeting. 'No, not often; work is over scarce for that,' they answered; 'but we're glad to work any hour when we can get work to do.' 'And what may be the average earning of a stocking weaver?' I asked; 'I mean when a man is fully employed.' 'About four and sixpence,' was the reply. 'Four and sixpence,' I said. 'Well, six fours are twenty-four, and six sixpences are three shillings: that's seven and twenty shillings a week. The wages are not so bad when you are in work.' 'What are you talking about?' said they; 'you mean four and sixpence a day, but we mean four and sixpence a week.' . . . . we walked on in silence for some moments. . . . . what I heard seemed *incredible!*" And he proceeds in another passage to compare this system of working with the factory system, to the obvious disadvantage of the former, much as an opponent of "sweating" might do at the present day.[1] "A cotton manufacturer builds a mill, and puts machinery into it, and then gives so much per week, or so much the piece of work, to the men and women and boys and girls he employs. But I found that the arrangement in the hosiery trade was very different. The stocking and glove manufacturers did not build mills, but were the owners of the frames in which stockings and gloves were woven." He goes on to disclose a system of shocking extortion, and much terrible privation, connected with this method of work (described in chap. ii.) from which the other is free, advocating in consequence

[1] See, for example, the Report to the Board of Trade by its official Labour Correspondent on the nail and chain industries of the "Black Country" (Report to the Board of Trade by John Burnett, October 31st, 1888).

employment in a factory rather than at home where both kinds are subject to the same economic pressure. The gloves mentioned above by-the-bye were obviously not the skin ones generally worn now. These latter are also the subjects of a home industry, however, and the story of their relation to machinery is told in a very agreeable manner by Mr. Beck.[1] It will be interesting to find the moral drawn in this case to be just the reverse of that last quoted. "Several machines for sewing and cutting gloves were introduced," says this well-informed writer, "at the beginning of this century, but for a time with very small encouragement of success, and even when the French 'punch,' in the shape of a hand, cut out gloves by wholesale . . . the sewing of the seams; the operation which affords most general employment; still remained undisturbed, . . and it seemed probable that glove-sewing, with lace-making and straw-plaiting, would pass into history as the last relics of our once extensive domestic manufactures." Now, however, "a machine of German construction produces gloves entirely by automatic power, saving only one minor and unimportant process," and "thus the entire subjugation of gloves to mechanic power has been affected." Yet the supremacy of machine industry had not followed. The glove manufacture, "although in presence of an enemy that may prove more and more aggressive, still retains its most pleasing features"; and in various parts of the country whole villages "depend on the labour of deft-fingered women, to whom periodically parcels of unmade gloves are brought to be stitched by the agents of glove firms, and

[1] "Gloves, their Annals and Associations," by S. W. Beck, p. 179 (Hamilton, Adams & Co., 1883).

in due time again fetched away."[1] Here is the so-called "sweating system" again, but now it is "a most pleasing feature" of an industry, in which too—whether machine or manual—the sub-contractor is a particularly useful and desirable member of the organism.

These extracts (which might be multiplied indefinitely)[2] tend to show that so far from home industries being all manual, machinery, from the simplest tools up to machine industry itself, is as native to them as to factory labour and how baseless is the common error that concludes otherwise. They exhibit also in a strong light those efforts after adjustment distinguishing the last half century of progress alluded to a few pages back. The modern factory system we perceive is still gaining on earlier modes of production, and machinery on handicraft, but not with the same rapidity as formerly, and the progress is liable to checks and reversions unknown in the first two periods. It is a progress of degree more than of kind; and possible limitations are beginning to show themselves, and even in some cases to be already taken seriously into account.

LEGISLATION AND HOME INDUSTRY.

But all home industries are not "reversions of type," nor are they necessarily machine industries, nor conducted by the method of "sweating;" there is still the primeval system of isolated independent labour, by far the most general of all;[3] and a great controversy is now raging in this country

[1] For a very accurate and interesting description of the several parts of this industry see "Mrs. Haliburton's Troubles," by Mrs. Henry Wood, (Bentley & Son).

[2] There is no need now to multiply them. The Public at the present time is absolutely glutted with such details. What is needed is some orderly arrangement of them; some consistent deductions from them; and some harmonious action on account of them.

[3] About five-sixths of the productive labour of the world is still reputed handicraft.

as to the extent to which this should be placed on the same plane with factory industry by Government interference. There is much in the manner in which this controversy is being conducted to excite alarm. The immaturity of the views often enunciated, and the absolute ignorance displayed, in many cases, of the whole history of labour, is distressing, while even competent observers are found committing themselves to very startling proposals. Thus Miss Beatrice Potter (well known for her exertions in this and other good causes) summing up in a letter to *The Times* of September 22nd 1888 her deliberate views on this head,[1] propounds the following doctrine. "Home work," she says, "is a very citadel of the evils summarised by the term sweating." It is "at once the cause and the most acute manifestation of the industrial disease which is popularly known as the sweating system." She believes "the only radical remedy for sweating is one which will cover the whole area of the disease" . . . . . it is "to force our workers into the factory system as we have forced our children into the schools."

One can well imagine with what genuine amazement the early supporters of factory reform would have read such testimony as this. By far the most effective of their arguments were directed always against precisely the course of conduct here strenuously recommended—the forcing persons from their homes into factories. Doubtless much exaggeration was employed at that time (and

[1] See also her article in the *Nineteenth Century* of the previous month, August, 1888. The same writer, and others, uphold the same contention with almost absolute unanimity in an important book lately published, "Life and Labour of the People," edited by Mr. Charles Booth, Vol. I. (Williams & Norgate, 1888), and in their evidence before the recent Committee of the House of Lords.

is sometimes still employed) in contrasting the happy conditions of the home-worker with the hapless lot of the worker away from home, and we have already here,[1] and we have heretofore elsewhere,[2] said something to dispel popular illusions on this head. It is extremely probable that the surroundings of home labour were as unhealthy as those of factory labour from the first, and that where competition reigned and there was no public supervision, other great evils, supposed to be peculiar to the larger industries, equally prevailed, it is even an open question if the home is ever the best arena for industrial work where it can be avoided,[3] and might not more happily be reserved for rest and social life. But for the moment these are not the pertinent considerations. The question is of the permitting gross evils where they can be prevented; and the answer need surely not be far to seek. Neither the factory system nor any other system of labour is all good or bad, but each one has its characteristic excellencies and defects. But what is all bad, and equally so under whatever system, is the dealing inhumanely with one's fellow-creatures, which it is the obvious province of Government to suppress, a duty that is alike binding on it too wherever the labour be performed, and on whomsoever the injury be wrought.

The second error; that home industries have never been brought, like factory industries, under inspection; is less pardonable than the preceding. It implies on the part of the person making it either a great lapse of memory or complete ignorance of the subject. A large number of such industries have been under active

[1] P. 84.

[2] "Introduction to the Factory System," pp. 393, 401.

[3] Compare chap. x., p. 421.

Government inspection in England for over a quarter of a century (since the Factory Act of 1864), and all have been more or less so (that is so far as women, young persons, and children are concerned) since 1867. Further, they were for long under a much closer inspection, when they had each their several guild and trade organisations, whose regulations had in most cases, it must be remembered, the direct authority of law. What is true is, that owing to the more obscure and unsystematic nature of this kind of work it is more difficult to inspect than the other, and in particular that adult male labour escapes the indirect compulsion to which it is commonly subjected in factories.[1] But to suppose that excesses produced by modern competitive industry require less to be provided against because they are exhibited in one kind of building rather than another, or that it is the proper part of Government to favour any of these, is to mistake altogether both the nature of the obligation imposed on rulers by the Industrial Revolution, and the whole character and course of our industrial history.

THE NARRATIVE RESUMED.

These somewhat general considerations have delayed us rather long from the main course of this narrative. They have been allowed to do so partly because they refer to matters that are at present occupying much public attention, and partly with reference to the next chapter of this book, which will deal with legislative efforts made from time to time in view of some of them. It will there be shown how crude, partial, spasmodic, and inconsistent those efforts have generally been in the absence of some proper preliminary survey of the field of labour as a whole,

[1] Compare chap. x.

and some definite scheme of action founded thereupon. In resuming it, we shall first pass rapidly in review a few features of material change distinguishing the epoch we have now arrived at from that earlier one described before,[1] and having dealt briefly in the next place with the progress made by the factory system up to then. touch lightly, in conclusion, on the immensely increased facilities of communication and commerce which greatly affected its later years.

GENERAL PROGRESS OF THE UNITED KINGDOM: ABROAD.

The position of the United Kingdom one hundred and fifty years ago was very different from what it had become by the time our tale has reached now, or from what it has become since. At that earlier period it was still fighting for its position as a first-rate maritime power, and its expansion abroad remained to a large extent of the nature of an experiment. It was a corn-exporting country; feeding others, not relying on them for food;[2] constantly involved in the wars and rivalries of other countries, and glorying in military and naval renown above all else. A century later, we had shaken ourselves free from most of these national conditions and aspirations of which but few indeed remain to-day. We had ceased to export corn; to seek quarrels with our neighbours, or share gratuitously in theirs; and the new destiny of England as a great manufacturing nation and the head of a vast colonial empire was practically determined. But it had not yet been realised. The empire was less in many directions and in many ways than it became in the next fifty years. The population

[1] Chapter iv.

[2] It was not until 1790 that England ceased to be a wheat-exporting country. "Porter's Progress of the Nation," p. 147.

of British India was quite a third or a third-and-a-half less than now. Australia was still unsettled; Africa unexplored. Canada was a thinly-peopled, half-rebellious province, showing little sign of those vast possibilities of extension and settlement which make it now a great dominion. The population of the whole British possessions excluding India was, according to the statement of Mr. McCulloch,[1] no more than 3,684,000, and of India 80,000,000. The former has grown now to be about 16,000,000; that is, it is four times as great. The North American states have increased from 1,250,000 to 5,000,000; the West Indies and British Guiana from 784,000 to 1,750,000; and Ceylon from 1,250,000 to 2,250,000. Our South African provinces have between them to-day 2,000,000 inhabitants; Australia and New Zealand probably more than 4,000,000. The population of British India is well over 260,000,000; and our trade with all this vast colonial empire is "seven times the amount of fifty years ago."[2]

AT HOME.

The position at home has generally speaking kept pace with this extraordinary expansion abroad. The population of the United Kingdom at the census of 1831 was between 24 and 24½ millions[3] and ten years ago was above 37 millions, the increase in a little over fifty years being consequently a little over fifty per cent. The rate of this increase has

[1] "Statistical Account of the Empire," Vol. II., pp. 518-21.

[2] See "Growth and Distribution of Wealth," by Mr. Giffen, in "the Reign of Victoria," edited by Thomas Humphrey Ward, Vol. II. (Smith & Elder, 1887).

[3] These are partly the results of the census of 1881, and partly speculative calculations. They would of course require much revision if perfect accuracy were aimed at.

not been uniform.[1] Up to 1857 the population had only grown to 28,000,000; but after 1857 the increase was "by leaps and bounds." In 1867 it was nearly 30,500,000; in 1877 it was no less than 33,500,000. This increase has been greatest in England and Wales; next, and nearly equally, in Scotland; and in Ireland there has been a large decrease. "England and Wales fifty years ago held 15,000,000 of people only; now over 28,000,000. Scotland fifty years ago held 2,500,000 only; now just over 4,000,000. In England and Scotland therefore the increase is altogether 14,500,000, or nearly 3,500,000 more than the total increase in the United Kingdom." The difference represents the loss of population in Ireland, which diminished from a little over 8,000,000 sixty years ago to less than 5,000,000 at the census of 1881. The national revenue increased meanwhile in almost exactly similar proportions: from about £60,000,000 sterling to about £90,000,000 sterling; or again by fifty per cent.[2]

This great increase of population and wealth has been most visible in the professional, mercantile, and industrial classes; not at all in the agricultural, and not consistently in the manufacturing. The results in a few principal industries may be summarised. Taking "textiles" first: the annual consumption of raw cotton in 1836-40 was about 406,000,000 lbs., and in 1881-84 about 1,470,000,000 lbs., an increase of 260 per cent. The annual consumption of wool for 1840 was calculated by Mr. Porter at some 200,000,000 lbs.[3] It is

[1] See also chap. i., p. 6.
[2] Giffen, p. 15.
[3] "Progress of the Nation," p. 176.

about 400,000,000 lbs. at present. The linen manufacture within the same time shows an increase of about 157 per cent., while the manufacture of jute, a wholly new industry, "exhibits an annual consumption of no less than 4,500,000 cwts., or 500,000,000 lbs."[1] On the other hand the silk manufacture has declined.

The next largest British industry after textile fabrics is the iron manufacture, which shows even more astonishing results. "Fifty years ago the production was estimated at 1,250,000 tons only. It can hardly now (1881) be put at less than 8,000,000 tons; an increase of about 6,750,000 tons, or about 550 per cent." The increase in no other great industry has been as phenomenal as this but there has been an extraordinary development of small miscellaneous ones, as match-making, patent medicine-making, ready-made clothing, and many more, in some of which even greater *proportionate* results have been obtained.

Immense as is this increase both of population and the products of labour, it still gives, says Mr. Giffen, an inadequate idea of the increase in industry itself. "The increase in raw material consumed, large as it is, does not show the whole increase in the business done. . . . . At the last census in England the numbers occupied in the textile manufactures appear to have been only fifty per cent. more than in 1841; 963,000 compared with 604,000; while as there is little increase of any kind between 1851 and 1881, and all the apparent increase is between 1841 and 1851, it may be doubted whether the increase, such as it is, is not apparent only, and due to some change in classification

[1] Giffen, p. 20.

in the former years. But it is of the essence of progress such as has taken place that there should not be an increase of the numbers employed in the leading industries corresponding to the increase of production. The advance to the present time would not be what it is if more were not produced by the same human agency: "—that is to say the employment of abbreviated and improved methods in production (principally machine industry and the factory system) have been the chief factors in the immense strides which the country has taken.

Returning to the more exclusive subject of this work. Our account of manufacturing progress in England was arrested (chap. iii.) at a point when the self-acting mule and power-loom had come into operation in textile labour and established machine industry on a firm basis. But these great inventions were rather unfamiliar yet, and only partially availed of. In cotton manufacture indeed, the former was already sweeping everything before it, but some time had yet to pass before it superseded the more cumbrous "billy" in the spinning of wool and worsted, and in linen manufacture much yarn was still spun by hand. The power-loom was even slower than the mule in gaining general favour, for prejudice against it was still stronger. Nor was this prejudice by any means confined exclusively to the operative class. Many worthy persons with no particular industrial leanings were greatly disturbed on its account, and viewing the considerable hand-loom villages that had now grown up, or penetrating into the squalid quarters of great towns where hand-loom weaving was carried on, they would ask

MANUFACTURING PROGRESS OF ENGLAND.

themselves what was to become eventually of the busy workers they saw employed there, and find no immediately satisfactory answer to the question. There was a strong distaste for it even amongst employers, some of whom Radcliffe[1] does not scruple to charge with deliberate unfairness and want of patriotism in their opposition, while as for the weavers themselves, they almost to a man refused to weave with power-looms, and the curious result has ensued, that whereas hand-loom weaving was almost exclusively performed by men, power-loom weaving is now almost as exclusively performed by women. The result came about that, even in cotton manufacture, hand-looms "are believed not to have diminished between 1820 and 1834, but rather to have increased";[2] while no power-looms were yet employed in the silken and linen manufactures at all, and a very limited number in the woollen.[3]

From this time forward, however, a very rapid supersession of the old by the new method began, greatly aided as time went on by several improvements in the construction of the loom itself. The most important of these were the perfecting of the "weft-fork," and the inventions of the "loose-reed" and "roller temple," by Mr. James Bullough of Blackburn, the value of which taken together much more than doubled the productive capacity of the weaver. Previously, it had been unusual for the shuttle to make more than 100 flights (or "picks") a minute; immediately after it was enabled

[1] "Origin of Power-Loom Weaving," *passim*.

[2] "Cotton Manufacture," p. 237.

[3] Report of the Select Committee on Hand-Loom Weavers' Petitions; ordered to be printed by the House of Commons 4th August, 1834; pp. 4, 31, 67. But these statements should probably be accepted with some reserve.

to make from 150 to 200. From 200 to 250 is not uncommon now. Improvements in spinning machinery kept pace meanwhile with those introduced in weaving. In 1837 "self-acting mules contained 324 spindles each; in 1856, 480 spindles each, and were worked by one winder and one piecer to a pair (960 spindles)" . . . . the ordinary size of the self-acting mule "is now (1887) 1,080 spindles; and one winder, one big piecer, and one little piecer, suffice to work a pair of mules of 2,160 spindles in each pair."[1]

Other great inventions in textile machinery include the Jacquard loom; Heathcoat's bobbin-net machines; the cotton-combing and wool-combing implements identified with the names of Joshua Heilman and Isaac Holden respectively; improved carding and sizing machines, and the like, and must be passed by still more rapidly, while a short space only is reserved for a few words on the development of steel as a material of manufacture; the increased employment of hydraulic machinery; and the utilization of waste products, among the other most striking advances in manufacturing processes as we conceive of this last half century of progress, so fertile in such various and such vast ones.

The invention of the hot blast by Mr. Neilson (about 1829) was a capital improvement in the manufacture of iron, but it was some time before it came generally into use. Steel was produced meanwhile through the method of puddling introduced by Cort.[2] But quite lately that method has been altogether superseded by

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[1] "The Cotton Trade and Industry" in "Reign of Queen of Victoria," Vol. II., p. 172. Mules of 1,300 spindles each, and upwards, have been set to work since.

[2] See p. 113.

a new one (first perfected by Sir Henry Bessemer), whereby steel is manufactured without passing through this intervening state at all, the result being seen in its complete triumph over iron as a material of manufacture: a triumph as complete as had been hitherto the triumph of iron over all competitors. The most striking effects of this change are not, perhaps, the most apparent ones. They are found, of course, in the substitution of steel for iron in such great undertakings as the laying of railways and building of ships, but found also in the smallest and most finished details of workmanship, suited to the latest discoveries in science; and even not unworthy of them; under whose conjoint influence a new era seems certainly preparing for our descendants in which the most potent implements and engines of this one will be obsolete. Already, in view of them, the ordinary locomotive looks antiquated; the telegraph is an appliance suitable only for communication at long distances. The gas-light that so dazzled our fathers' eyes, sheds a dim and unsatisfactory light for us; the automatic machines, which were curious toys to them, deliver goods, and take payments in return, at our street corners. Operations are possible in surgery of which the greatest masters of that art dared not dream formerly; and even the inmost secrets of the Universe, owing to the extremely delicate instruments placed at his command, yield themselves with ever decreasing reluctance to man's insatiate research. Meanwhile in all the heavier feats of metal work, immense hydraulic monsters perform their allotted parts with an ease, a precision, and a silent grace never approached before; the terrible exhausting labours of the furnace and rolling mill are saved the worker, and his proper

relation to machinery receives therein one of its most signal and beautiful illustrations.

The utilization of waste products has been bracketed with these great triumphs of modern ingenuity not only as one of the most remarkable in itself, but symbolical also in a high degree of that stage in the development of the modern factory system which has now been reached. In its early days of strength and freshness no such an enterprise would have seemed worthy of it. Progress was still in kind, not degree, and successive great inventions made production more easy and lucrative almost every day. It is different now. The problem of successful business is becoming rather how to get the most out of present conditions than to devise new ones; and hence the astonishing fortunes that have been made, and will probably continue to be made for some time longer out of the leavings of other processes.

SCOTLAND.

We pass to other divisions of the United Kingdom, not hitherto dealt with separately. The first cotton mill ever built in Scotland was erected at Rothesay, in 1778, by an English company, from whose hands it changed very soon into those of Mr. David Dale. The second was at Dovecothall in Renfrewshire; and another very early one was the Levern mill of Messrs. Dunlop, Stewart and Co., erected near Glasgow in 1781. But there had been factories in Scotland before this time. About the year 1600 "seven Flemings were brought to Edinburgh to instruct the people how to make seys and broadcloths there," so as "to be independent of a supply from England;"[1] but of this patriotic commencement there is

[1] "The Industries of Scotland," by David Bremner, p. 146 (A. and C. Black, 1869).

no further record. Nineteen years afterwards a woollen manufactory was undoubtedly erected. It was in a workhouse, formerly a hospital, but thereafter named "Paul's Work." "Though started under the most hopeful circumstances, and encouraged by numerous donations," this factory does not appear to have succeeded. It was presently converted into a house of correction, and subsequently sold to Bailie Macdowal, who, about 1770, had it reconverted into a woollen factory, in which he is said to have "made superfine broadcloth equal in quality to any brought from England." Nevertheless it failed again. It "is now the printing-office of Messrs. Ballantyne and Co."[1] In 1636 a somewhat similar kind of factory, in connection with a house of correction, was established in Aberdeen. It was finally abandoned in 1711. "The first really energetic and promising effort to establish in Scotland a manufactory of woollen fabrics was made in 1681 by an English company, under the management of Colonel Stanfield." These works were in the neighbourhood of Haddington. After the death of their founder they changed hands several times, and ultimately collapsed: from which period for a considerable interval no more important efforts appear to have been made in this direction, the industrial energies of the country being diverted instead to the linen manufacture, which had long existed as a handicraft industry and for which it was supposed the people had a greater aptitude. In 1787 the first mill for spinning linen yarns by water-power was erected at Bervie;[2] and another large one

[1] "The Industries of Scotland," p. 147.

[2] "Linen Trade, Ancient and Modern," p. 489. This is the same year that witnessed its commencement in England; see chap. iii.

at Brighton (Forfarshire) three years afterwards. About the same time (we read) "several new kinds of manufacture"—such as the "making of gauzes and thread" —were introduced at Paisley, while the "spinning of silk, wool, and cotton had been considerably extended."[1] Flax spinning by steam-power was first essayed at Dundee, "in a small mill built at Chapelside by Messrs. Fairweather and Marr, about the year 1793," and so rapidly did it progress that already in 1798 "five spinning mills, having an aggregate of 60 horse-power, and 2,000 spindles, were erected in various parts of that town."[2] After this there was a period of decline; consequent on complications produced by foreign warfare; and in 1811 only two of the above-mentioned factories continued in operation. But from the conclusion of peace, a few years afterwards, a new era of prosperity began. "In 1822 seventeen flax-spinning mills were in operation in Dundee, all of which were driven by steam-engines; representing in the aggregate 178 horse-power; . . . . . about 2,000 persons were employed . . . . and the number of spindles going was 7,944," or, including the whole neighbourhood, there were "thirty-two spinning mills" then at work. From that time forward the increase was more rapid for a while in the number and power of the manufacturing appliances than the number of factories, in 1832 the aggregate horse-power was up to 800, and 3,000 persons were employed, and in 1846 "there were thirty-six spinning mills in Dundee alone, with a motive power equal to 1,242 horses, while the number of spindles was 71,670." But a new industry had now

[1] "Industries of Scotland," p. 219.
[2] *Idem*, p. 249.

settled in this neighbourhood, fated to have an even greater influence on the future prosperity of the town. About 1833 jute spinning was commenced there. It had at first but little success, and "continued a struggling industry" till taken in hand by the Messrs. Cox, who gradually brought it to much perfection. In the meanwhile power-loom weaving had been introduced. Experiments were made as early as 1821, but the first really successful power-loom factory was built in 1836 (by the Messrs. Baxter). It was some time longer however before the new method spread much, and more at first in the cotton than the jute and linen industries.

Other great manufactures that received a strong impetus from the introduction of the modern factory system into Scotland were those of iron and iron products, and the arts of printing and dyeing. The first of these industries dates from the establishment (in 1760) of the Carron Works near Falkirk, concerning which something has been said already.[1] As early as 1738 calico printing on a large scale was commenced.[2] It settled from the first in the neighbourhood of Glasgow, where it has vastly developed since. It will be remembered that Mr. Bell of that city was the inventor of cylinder printing.[3] "Turkey-Red Dyeing" was first successfully practised there somewhat later. This process was introduced into England at the end of last century by a M. Borelle, a Frenchman, who established himself in Manchester, the secret being carried thence to Scotland by M. Papillon, another Frenchman. The

[1] Chap. iii., p. 105.
[2] "Industries of Scotland," p. 296.
[3] P. 130.

latter made great improvements in it; and further ones (both in printing and dyeing) were made afterwards by Mr. Koechlin of Mulhausen, and are still in use. Glasgow and its neighbourhood became in time and under these auspices a sort of "black country" and "factory district" combined in one, wherein, besides the above, an almost infinite variety of other industries were, and still are, carried on, principally by modern factory methods.

IRELAND.

Irish historians claim a great antiquity for both the linen and woollen manufactures in their country. The Brehon laws enjoined the cultivation of flax; and linen garments dyed yellow are said to have been the national costume of the ancient chiefs. There are, however, but faint traces of any export trade previous to the middle of the seventeenth century,[1] though linen yarn had certainly been supplied before then to the English market, and, according to Warden,[2] woven here and returned to Ireland for sale. It was in 1670 (Macpherson avers[3]) that the manufacture proper "began among the Scots in the North of Ireland, where it has to this day flourished more than in any other part," but in this quotation some injustice appears to be done to the memory of Lord Strafford who nearly half a century earlier, while acting as the Viceroy of Charles I., made vigorous efforts for its promotion, and even "spent in one year £10,000 of his own private fortune" in this endeavour. . . . . "At his own cost he had a hundred of the best

[1] There was a manufacture of cloth carried on at Carlow towards the end of the thirteenth century, but apparently it was only for local use.

[2] P. 389.

[3] "Annals of Commerce." Compare Anderson ("History of Commerce") under the same date.

linen looms brought over from Amsterdam, and these were distributed amongst the most worthy of Irish weavers."[1] And a further injustice seems to be done to another name of eminence in the same connection, namely Louis Crommelin, a Huguenot, who some years later (about 1699) settled there at the invitation of William III., and to whom, and the colony of refugees of whom he was the leader, local historians attribute the rise of the Irish linen manufacture in the period immediately preceding the introduction of the modern factory system. The improvements they introduced (supplemented by those of Quinn and Bradshaw) brought the hand-loom weaving of Irish linens to a very high degree of excellence, and gained for them that great reputation which they even still possess. This period was in the opinion of Mr. Warden unnecessarily prolonged. "It is astonishing to think," he says,[2] "that the intelligent manufacturers of Ireland should so long have looked on and allowed the enterprise of these (*i.e.*, other) countries almost to rob them of their trade; but such is the fact;" and it was not until "fully forty years after the factory system had been introduced into England and Scotland" . . . . . "not until the year 1828[3] (as stated by another writer) that flax spinning machinery was started in Belfast, the Messrs. Mulholland having in that year erected their mill." In the same year the Messrs. Muirland, another Belfast firm, erected another one; and shortly afterwards power-

[1] "Fortunes Made in Business," Vol. III., p. 379; (Sampson, Low, 1887). Other authorities have estimated the amount expended by Strafford at much more; as high even as £50,000. See "The Drapers' Dictionary," p. 201, Article "*Linen*," where also many more interesting details are to be found. Compare Smiles' "Huguenots," p. 106.

[2] P. 404.

[3] "The Drapers' Dictionary" says 1830 (p. 203), but this is a mistake.

looms were for the first time brought over. So slowly did they spread however that even as late as 1859 there were "only twenty-eight firms in the whole of Ireland using them in every branch of textile industry." Then came the change. Ten years ago (1881) there were, in the province of Ulster alone, 20,000 looms and 900,000 spindles at work, giving direct employment to about 100,000 persons.[1]

The Irish cotton industry furnishes a very different story from the linen, and one so little remembered, and yet so honourable in itself, as to be worth re-calling at some length. The first cotton-spinning mill was erected in the neighbourhood of Belfast, as early as 1771, at a time when, says Dr. Ure,[2] there "was not a single cotton loom in the whole north of Ireland": and the same author contributes the following interesting account of what ensued:—"Robert Joy," he says, "conceived the scheme of introducing into that then desponding kingdom the cotton manufacture." . . . . . "Having in conjunction with Thomas McCabe suggested that the spinning of cotton yarn might, as an introductory step to the establishment of the manufacture, be a fit and profitable employment for the children in the Belfast poor-house, several of them were set to work on the common wheel, but the novel machinery in England giving that country so great a superiority, it was found that no benefit could be gained without the introduction of it there. A spinning

[1] "Fortunes Made in Business," p. 391. More precise details are given by Dr. Grimshaw in a paper published in the journal of the Statistical Society of Ireland, Dec. 1888, p. 344. According to this account there were in 1841 *no* power-looms; in 1850, only 58; in 1881, there were 21,779; and in 1885, 24,000.

[2] "Cotton Manufacture of Great Britain," Vol. I., p. 285.

machine was therefore made in Belfast, under the direction of Mr. Grimshaw, cotton and linen printer from England, who had some time before settled in Ireland, and shortly after an experienced spinner was brought over by Mr. Joy from Scotland to instruct the children in the poor-house." A carding machine was also erected by Mr. Grimshaw, "which was afterwards removed to the poor-house, and wrought by hand"; and "they also despatched a skilful mechanic to England, who at personal risk and considerable expense, procured a minute knowledge of the improved machinery there, which the proprietors and inventors wished to have kept secret. . . . . But so far from confining their hopes of gain to themselves, these gentlemen encouraged the public to avail itself of their improvements. They exposed the machinery to open view, permitted numbers even from distant parts to be taught in their apartments, without any charge for such indulgence, and promoted the progress of the manufacture of cottons, dimities, and Marseilles-quilting, equally by example and instruction." These efforts were continued on an enlarged scale by Messrs. Nathaniel Wilson and Nicholas Grimshaw, ... and "the first mill for spinning *twist* by water there was built by them in the year 1784." Five years afterwards steam-power was introduced at the factory of Mr. James Wallace, at Lisburn; and so rapid was the progress thenceforth that in the year 1800 (only twenty-three years from the origin of the enterprise by Joy and McCabe) it "appeared in evidence before Parliament that the cotton manufacture which they had thus introduced gave employment to 13,500 working people, and, including all manners of persons occupied in

various ways, 27,000 within a circuit of only ten miles." After this propitious beginning it continued to spread for a while longer, a very spirited effort being made in particular by the Messrs. Malcomsons to naturalise it in the southern counties. But this experiment failed; as did a few others made in the same quarter, the early impetus grew ever weaker, and this manufacture only prospers now in Ireland (where it exists at all) along side the linen manufacture of the northern counties.

The story of the woollen manufacture is even more interesting than either of the preceding, but the interest is not of the same kind. According to a not very ancient State-paper[1] this was the "true and natural staple of the Irish; their climate and extensive sheep-grounds insuring to them a steady and cheap supply of the raw material, much beyond their home consumption." During the reigns of the early Stuarts it throve accordingly, and this prosperity survived both the Revolution and Restoration. But it had already excited the growing jealousy of English clothiers and the alarm of English politicians, and in 1634 that same Lord Strafford, so generous in regard to linens, is found writing to Charles I. "that all wisdom advises to keep this kingdom as much subordinate and dependent upon England as is possible, and holding them from the manufacture of wool." A like policy was advocated by Sir William Temple in 1673, and by the advisers of William III., and in 1697 a Bill was introduced into the English House of Commons which at once gave the signal for its decline, and eventually succeeded in completely

[1] "Report from the Select Committee on the Linen Trade of Ireland," 6th June, 1825.

annihilating it.[1] The Irish peasantry are clever with their fingers, and naturally artistic and tasteful. In all occupations requiring delicacy of touch and not too-exacting labour, they are good workpeople, but they are less apt for the requirements of modern industry than the Scotch and English: their disposition is too mercurial, and their habits more averse from those all-powerful modern economical expedients of greatly divided labour and the use of self-acting machinery. Their country, too, is very deficient in coal and iron. Where the factory system has progressed there has been almost exclusively in that north-eastern corner which in fine weather is within sight of the Scotch coast; it has practically made no headway elsewhere. At one time Dublin, at another time Limerick, and at another Cork, showed symptoms of considerable industrial prosperity; and at the same time glass-works, silk-works, and large corn-mills were scattered over the country, and were mostly doing well. Dublin alone at the suppression of the woollen manufacture employed in it (says Mr. Lecky) 12,000 Protestant families, "and 36,000 more," he adds "were dispersed over the rest of the Kingdom."[2] It had a speciality in the manufacture of *poplin* (a mixed fabric of silk and worsted), which was widely known and valued. Within the last half-century all these industries have pretty nearly vanished. So likewise has the iron manufacture, which also showed at one time many signs of life. It is related by

[1] The history of the Irish woollen industry is to be found written in Mr. Froude's "English in Ireland," chiefly in Vol. I.; and in Mr. Lecky's "History of the Eighteenth Century," principally Vol. II.; and there has been published rather lately a brief account of it by Mr. Swift MacNeill, M.P. "English Interference with Irish Industries," (Cassell & Co., 1886)., containing much interesting matter.

[2] "History of the Eighteenth Century," Vol. II. p. 213.

Scrivenor (quoting from Sir William Petty) how "in 1672 there were 1,000 tons of iron made in Ireland, which gave employment to 2,000 men and women, and that there were 6,600 smiths' forges," or rather, as he thinks, "one-fifth more," and the "men and women employed therein amounted to 22,500."[1] This was in the era of charcoal iron and when the surface of Ireland was largely covered with wood. The prodigality with which that wood was consumed, together with unwise fiscal regulations,[2] and the keen competition of other countries, united in bringing about its downfall, and it has shown no sign of reviving since.

MANUFACTURING PROGRESS ABROAD.

Turning from the British Isles to foreign countries, we find the modern factory system already established in every one of the great divisions of the Globe; in which it has taken up its abode at very various epochs, and in most of which, notwithstanding a usually rapid growth, home industry still largely preponderates; while in immense portions of them, as the interiors of Asia, South America, and Africa, it has of course made no way.

The first spinning machinery of the factory type was introduced into France by Monsieur de Calonne in 1787,[3] but little progress was made with the new manufacturing methods till after the close of the revolutionary wars. Large spinning mills began then to be erected; the weaving being all manual, as it has continued to be to a large extent to the present day. Even as late as 1878 it was reckoned that 328,000 hand-looms were at work in France, against only 120,000 power-looms; or

[1] "History of the Iron Trade," p. 65.

[2] *Idem*, p. 67.

[3] Ure's "History of the Cotton Manufacture," Vol. I., Introduction, p. xxvii.

nearly three to one; and the proportion, though not so high now, is still largely on the same side.[1] There are also some 200,000 persons employed in lace-making; and there is an immense number (in Paris especially) engaged in various petty, and mostly manual industries, carried on in small workshops, or at home. On the other hand there are very large metal works; and many other great establishments employing modern factory methods; and these are certainly on the increase.

In Germany the first spinning mill was erected in Saxony in the year 1799;[2] but the factory system spread very slowly previous to about 1830. The industrial conditions of the country up to that time were unfavourable to it. "The capitalistic system," a recent writer says, ... "did not properly exist. Paternal government, with its guilds and legal institutions for restricting individual action, and for adjusting the relationships of man with man, had done a great deal to delay the era of the great industry in Germany, and the class of small independent handicraftsmen continued numerous there after it had dwindled into insignificant proportions in England."[3] From that date, however, a great start was made, especially in Prussia and the Rhenish provinces. But the home workers, and those employed in workshops on a small scale, still outnumber enormously the factory operatives. "Ninety-seven per cent.," says Prince Kropotkin,[4] "of all the industrial establish-

[1] See "The Industrial Village of the Future," an article in the "Nineteenth Century" of October, 1888, by Prince Kropotkin, p. 521.

[2] Ure. Introduction, p. xxiv.

[3] "German Socialism and Ferdinand Lassalle," by W. H. Dawson, p. 17 (Sonnenschein, 1888).

[4] "The Industrial Village of the Future," p. 523.

ments of Germany employ less than five operatives; and much more than one half of the 5,500,000 persons connected with industry are at work in those small workshops, while there are on the whole less than 10,000 factories which employ more than fifty workers." There are still whole regions of the country (such as the Black Forest, and parts of Saxony, Bavaria, and Silesia) where manufacture, textile and other, is carried on exclusively in the people's own homes.

In Austria a few large factories are found, and chiefly in the neighbourhood of Vienna, but home work preponderates. In Hungary, no less than six per cent. of the population—that is 801,600 persons—are engaged in domestic industries; the textile trades alone giving employment to more than 680,000 domestic workers.[1] There are however very large corn mills. In Spain the principal factories are smelting works, but also important cotton factories in the Barcelona district, and there are large tobacco factories, and a few others. About ten years ago 563 steam-engines, aggregating 16,822 horse-power, were employed in all of them;[2] an amount probably not much increased since. Italy, whence our modern factory system actually originated, still excels in the particular art of silk-throwing that first led us to copy it, but has fallen behind in weaving and dyeing, its glory in mediæval times. The glass factories of Venice retain no doubt to some extent their ancient fame, and a great iron industry seems assured in the not distant future; but with these, and some more trifling exceptions, the factory system can scarcely be said to have made much progress there. In Russia, on the

[1] Kropotkin, p. 523.

[2] "Conditions of Nations," p. 705.

contrary, a very successful effort was made to naturalise it; particularly in cotton manufacture; as early as 1820, and already by 1842 there were in Moscow 560 masters employing 40,168 labourers, and "steam-power was used in 26 of the works, horse-power in 89, and water in 15." There were 20,424 looms, and 1,794 other machines at work, and the annual value of the produce was more than £5,500,000. In 1860 the various branches of the cotton industry in Russia showed the following results: "There were 1,153 factories, 150,000 workmen, and an annual production of cotton fabrics to the value of £9,500,000";[1] and there has been a continuous increase since. Yet, notwithstanding this great development of factory labour, "out of the 80,000,000 population of European Russia no less than 7,500,000 persons are engaged in the domestic trades, and their production reaches, at the lowest estimates, to more than £150,000,000, and thus equals the total production of the great industry" . . . while . . . "the aggregate incomes derived by the population from the domestic industries are three times larger than the aggregate wages earned in the factories."[2]

In both Switzerland and Belgium the factory system was early introduced and has for long been well established. The first Swiss cotton mill was erected at St. Gall, in 1798,[3] but for twenty years afterwards "nine-tenths of the yarn which they used in weaving was spun on the one thread wheel." This trade soon became very profitable. Already in 1836 there were upwards of 9,000 persons employed in spinning, and about 20,000 in

[1] "The Growth and Vicissitudes of Commerce," by John Yeates, LL.D., p. 440 (Philip & Son, 1887).

[2] Kropotkin, p. 524.

[3] Ure's "Cotton Manufacture," Introduction, xxxi.

weaving.[1] In 1873 the number of spindles was 2,059,000;[2] and there was also a considerable manufacture of silk piece-goods, particularly ribbons. The last information affecting textile fabrics shows a decrease in the number of spindles and a large increase of power-looms. Meanwhile the Swiss watch-making trade, mostly handicraft, is decreasing, while that of wood carving is largely on the increase.

Next to England the oldest coal-producing European country is Belgium, which consequently enjoyed special facilities in the adoption of the modern factory system. These facilities were early applied to the production of metals and metal products, and also to the textile—especially the linen—industry; to glass-making; sugar-refining; and many others. In 1838 the total horse-power of all the steam-engines employed in manufacture was reckoned at 25,312; in 1860 it was 161,809; in 1876, 539,864.[3]

Scandinavia was slow in adopting the modern factory system, but it is making good progress there now. A great industry has sprung up of late in Norway in the production of wood-pulp, and of other wood products, but textile factories are few and small. There is also some shipbuilding and smelting, but generally on a small scale too. Concerning Swedish manufacture, the following precise and very interesting details are given by Kolb.[4] In 1865 there were 15 cotton factories, 3 linen and 3 sailcloth factories, 5 of silk, 9 cotton print works, 10 sugar refineries, 696 leather factories, 22 glass works, 88 paper mills, 4 playing-card factories,

[1] Ure's "Cotton Manufacture," Introduction, xxxii.
[2] Kolb's "Condition of Nations," p. 617.
[3] *Idem*, p. 629.
[4] *Idem*, p. 677.

104 mechanical workshops, and 38 chemical "and technical" manufactories. The motive powers in use were still of a very primitive kind, however, for even ten years later—namely in 1876—651 factories were worked by animals, and 637 by water-power, while in 684, where steam was employed, the aggregate horse-power was only 28,003. In Denmark that system is little availed of.[1]

In North America the establishment of the modern factory system as a recognised method of production occurred early. The same year that Arkwright's patent was abrogated (1785) Thomas Somers of Baltimore "brought over from England an imperfect model of his machinery;"[2] and the next year two brothers, Robert and Alexander Barr, made the first machines for carding, roving, and spinning ever constructed there. During the following one (1787) the first building approaching in kind to a modern factory was erected at Beverly, Massachusetts, and this machinery set to work in it, and two years later Samuel Slater arrived from England (where he had been employed at one of Arkwright's mills) for the special purpose of introducing the factory system in America. After a short experience in New York he accepted an engagement from Messrs. Almy & Brown of Providence, Rhode Island, spinners of cotton yarn; and shortly afterwards "the venerable Moses Brown took him out to Pawtucket, where he commenced making machinery, principally with his own hands, and on the 20th December following" put up these machines

[1] It is scarcely necessary to except "butter factories"; of which there are over *six hundred*.

[2] "History of Cotton," by E. J. Donnell, p. 38 (Sutton & Co., New York, 1872).

"which were worked by an old fulling mill water-wheel in a clothier's building, in which they continued spinning, about twenty months."[1] This was the origin of the great Pawtucket works; afterwards very widely celebrated; and of the New England factory industry; since grown to such great proportions. In 1793 Eli Whitney invented the cotton gin:—an implement as important in the development of cotton manufacture as any of the more famous mechanical inventions; and already in 1810 the number of cotton mills in the United States was 87, of which 62 were in operation, working 31,000 spindles.[2] The progress since then is only second—if second at all—to that made here.

In South America, Brazil can boast of over 100 cotton factories, and other large works of the factory type; and there are some in the Argentine Republic; but few or none elsewhere.

In Africa, the large mills put up by the late Khedive in Egypt have long since ceased working; and in the Arab and French settlements along the coast the industries are wholly agricultural. To the south (in the Cape district), what exist as yet are principally non-textile factories: soap works, breweries, jam and biscuit factories, and the like, though some efforts in textile manufacture have been also made of late.[3] In India many factories are found; especially in the Bombay district; where quite an important textile industry of the characteristic modern type has sprung up.[4] In China, there are a few large textile factories,

[1] "Memoir of Samuel Slater," by George S. White, Philadelphia, 1836, p. 42.

[2] "History of Cotton," p. 65.

[3] A large woollen factory and dye works were recently started at Grahamstown.

[4] There are said to be 140 cotton factories alone now at work in India.

many porcelain factories, and some important metal works; and a "rolling mill" is just now (1890) in process of completion at Hong-Kong. In both these hugely populous countries the handicraft industries immensely outnumber of course the factory ones. In Japan a large spinning factory was erected as early as 1871;[1] and there has been a great increase of similar establishments since, especially in the Kasan district. There are also considerable iron works, and an increasing variety of other industries adopting factory methods. In Australia, the factory system has been recently introduced and will probably ere long be well established. With its vast and ever-increasing supply of wool it would be a strange phenomenon for that huge territory to continue always sending it over to Europe to be manufactured, especially if coal should hereafter be found in any abundance.

INCREASED FACILITIES OF COMMUNICATION.

Scarcely had good roads been reconstructed in England and a system of internal navigation opened up by means of canals, when those great advantages began to be superseded by the public use of railways, and the application to them of steam-power.[2] Private railroads, worked either by stationary engines or horses, had been in use for some time previously (principally for mining traffic),[3]

[1] "Condition of Nations," p. 862.

[2] Compare chap. iv.

[3] When coal was first worked it was conveyed from the mine to the surface in small baskets, called korves (from the Danish *korf*), carried on men's backs; containing about twelve stones each; and in the shallow pits sloping roads were generally driven from the coal to the surface, thus affording ready access to and from the mine without the necessity of vertical shafts. The next step was the adoption of small wooden boxes, shod with iron after the manner of a sledge, and dragged, or "trailed," by boys. In those days the natural floor of the mine was used for roads without anything in the nature of pavement or artificial covering. Sledges on wheels were afterwards introduced; and on the principal roadways either wooden rails of

and in 1801 an Act of Parliament had for the first time sanctioned the construction of a public one: "from the town of Wandsworth to the town of Croydon, with a collateral branch in the parish of Carshalton:" horses furnishing in this case the motive power. But the first line which carried passengers, and upon which locomotive steam-engines were used, was the Stockton and Darlington Railway (opened in 1825), while the first to strongly attract public attention and afford some real inkling of future possibilities was the Liverpool and Manchester line, opened in 1830. Between 1830 and 1836 great progress was made. Within that time "Thirty-five Acts were obtained, for the construction of 994 miles of railroad"; and so wild were some of the projects afloat, that "while one projector persuaded a company to try sails as a means of propulsion, another seriously advocated the employment of rockets."[1] From 1836 to 1844 substantial progress followed, and already 2,000 miles were open when in that year the railway mania commenced, and spread with fury over the three following. "In the year 1844 fifty-seven Acts were passed for 805 miles; in 1845 one hundred and twenty for 2,700 miles; in 1846—the year of climax—two hundred and seventy Acts for 4,538 miles; and in 1847 one hundred and ninety Acts for 1,354 miles."[2] We need not pursue this subject. At present there are some 20,000 miles of railway open in the United Kingdom, over which are carried annually some

a very primitive form were used, or in some instances the entire width of the roadway was planked over. Iron rails were first used underground about the year 1812. (*Transactions of the Cumberland and Westmoreland Antiquarian and Archæological Society*; Part II., Vol. III., p. 279.)

[1] Francis's "History of Railways," pp. 283, 293—quoted in "The Reign of Queen Victoria," Vol. II., p. 85.

[2] *Idem*, p. 91.

700,000,000 passengers and more than 260,000,000 tons of goods.

Meanwhile steam-power had also been applied to navigation with great results. Experiments had been made in Scotland and America half a century earlier, and in 1819 the steamship "Savannah" had actually crossed over here from America, though it was nineteen years later before the passage was made from this side. In 1838 the "Sirius" and "Great Western," leaving Cork and Bristol on April 4th and April the 8th respectively, arrived at New York on the same day (April 23rd), and thenceforth a regular ocean traffic commenced. In 1840 the Cunard Company was formed; the Peninsular and Oriental Company in 1841; the Pacific, Orient, and others, later; by means of which, and the like, communication is now regularly maintained with the uttermost ends of the earth, thus brought as close together for all the practical purposes of trade as the confines of a single great kingdom were a century before.

The era of postal reform falls within this same phenomenal half-century. In 1837 Sir Rowland Hill's scheme for a uniform penny postage within the United Kingdom was first made public, and in the beginning of 1840 was carried into effect. Up to that time the rate of postage from London to Birmingham was ninepence; to Manchester elevenpence; to Newcastle a shilling; to parts of Scotland and Ireland it was as high as eighteenpence. Foreign rates were of course much higher:—ten and twenty times so in many instances. There were but two mails a week to Germany and the North of Europe; and but one a month to America, the Mediterranean ports, Egypt, In-

dia, and most other distant places. In the year preceding the introduction of the penny rate, 76,000,000 letters passed through the post office; in the year following 169,000,000. In the year ended 1885-86 the number was 1,403,547,900, or thirty-nine to each head of the population against three at the former date, besides 172,000,000 post-cards. The last (the thirty-fifth) annual report of the Postmaster-General furnishes the following particulars. During the year ended 31st March 1889 there were delivered in the United Kingdom, 1,558,100,000 letters, 201,400,000 post-cards, 412,000,000 book packets and circulars, and 151,900,000 newspapers; a total of 2,323,400,000, giving an average of about 61 letters, &c., to each member of the population (reckoned at about 39½ million). The parcels delivered by post during the same year—not ten years after parcels were carried at all—numbered 39,590,000.

The electric telegraph started nearly contemporaneously with the penny post. The first line was laid between Euston Square and Camden Town in 1837. Ten years afterwards about 2,400 miles of wire were either up or being put up. There are now considerably over 150,000 miles in use in the United Kingdom, there are more than 6,000 telegraph offices, and the number of messages annually delivered considerably exceeds 40,000,000. Nor that alone. By the laying of cables beneath the sea all portions of the civilised world have been brought into instantaneous communication, and the hearts of all mankind may almost be said to beat in unison at the same piece of news within the same moment of time.

Ten years ago the telephone succeeded to the place of wonder which the telegraph occupied in our fathers'

lifetime, yet it has already become so familiar as scarcely to evoke comment. A merchant speaks from his country residence to his factory or counting-house, it may be thirty or fifty miles off, and the very tones of his voice are conveyed to his partners or subordinates there: he gives his orders, makes his bargains, discusses events with them without stirring from his own fireside, and already further submarine cables are at work to extend these astonishing facilities to other countries.

EFFECTS OF THESE ON THE FACTORY SYSTEM.

How vast must have been the effect of these enhanced opportunities of communication on the progress of the modern factory system may be partially surmised by comparing this epoch with that which formed the subject of our earlier investigation,[1] the epoch of the stage waggon and canal boat, of the cruder appliances and ruder manners of a bygone age. Conversely, the effect of the new system of industry in stimulating invention and action in these directions must have been very great. To separately consider such influences, and assign them their relative importance, is beyond the purpose and power of the present writer. Two considerations only claim inevitably his attention in bringing this long and discursive chapter to a close, their effects, in a general way, on the factory organism considered historically, and on the economical position of the operative class.

The most obvious effect on the factory organism has been to weld it closer together as a mechanical power while dispersing it more widely as an economic fact, and to confer an increasing power on mere capital (as such), manœuvred quite apart from, and

[1] Chap. iv.

often even in opposition to, the interests of the capitalist employer (*entrepreneur*). The conduct of business even fifty years ago was very different from now. "England was rather an aggregate of isolated districts and disunited towns than one animated, close, compact kingdom. Each city was dependent on the country in its neighbourhood for food supplies, and many a district, rich in mineral or agricultural wealth, lay neglected because far from seaport or canal."[1] The England of today is all the opposite of this. It is one huge congeries, composed of various members, literally bound together with links of iron, and in instantaneous communication with every other member, and with the whole world. In face of such changes the factory system tends to become not only more impersonal than ever (the employer, for instance, living no longer at, or perhaps near his works, and visiting them it may be only occasionally); it tends also to be less the superlative factor in wealth creation that it was. For, of this system of great industry, partly founded on capitalist production and partly on extraordinary facilities of communication, the factory system is now but one available member, a mesh in the ever-widening web of combined and divided labour typified by the endless miles of iron road and telegraph wire that environ it. The factory itself is but one of several productive instruments; the line of steamships, mine, or cotton plantation; all of which may be in the same ownership, and all of which alike claim intimate attention. The successful employer is no longer he who bustles about among his workpeople and customers, as formerly, but one who in studious retirement can calculate minute quantities with the

[1] "Reign of Queen Victoria," Vol. II., p. 126.

nicest accuracy, and is the greatest master of the movements of the market. Competition is not among a comparatively few employers, and between a growing and decaying mode of manufacture; it is co-extensive with every method of employment practised under whatever conditions of political and economical compulsion in every quarter of the globe. The old type of factory master is indeed almost as extinct as the old machinery. His individuality was first merged in the mere capitalist, his very identity is lost now in the Limited Liability Company or financial Syndicate.

This change has been in a measure forced on him by the influences described, and with it some of the most distinctive features of the modern factory system as known to the last generation have gone too. Commodities are no longer made now largely for stock, and fashions continually repeated for the same market; but for immediate sale, and in response to any sudden order. The cares and anxieties of such conditions of trade are almost too vast for any one man to bear, and the capital required is enormous. At the same time great aggregations of human beings, and huge costly engines, become continually less the great *desiderata* of production, while rapid and cheap production is more than ever necessary. The capitalist-employer divides, accordingly, his anxiety with others, ceases probably to be wholly dependent on any one business, and stands aside to see the complicated problems of modern manufacture solve themselves.

Now the operative has no such retreat as this open to him, unless he too become a partner in the factory, that is a capitalist,[1] when he ceases to be exclusively an

[1] On co-operative production, see chap. x.

operative. He cannot give up work and look on; for his livelihood depends on work; and in the meanwhile all this expansion of markets and these great facilities of communication, equivalent to further expansions, primarily make his position more insecure. It is not merely the caprice or miscalculation of his own countrymen that may throw him out of employment now, but of millions of persons in other countries; not alone the speculation of one master that may affect him, but the speculative artifices of thousands quite remote from his knowledge, the promoters of "rings," "trusts," "pools," and the like. It may be said he shares this position with the consumer and all other labourers, whose interests are also largely at the discretion of these modern devices, and that is so, and he is consequently liable to suffer as producer and consumer both. It may be pointed out how the facilities of locomotion are at his command as well as the employer's, enabling him to go rapidly from place to place in search of work; which is true likewise, and along with the opportunities of education that he now enjoys is an important compensatory advantage. Certain it is too that his chances of becoming a partner in industrial undertakings are much greater than they used to be; that no difficulties, but many wise inducements and safeguards are provided for him should he seek to become a capitalist. These are the alleviations of his economical position, and it is to be noted that they spring from other than economical or physical causes. They are the results of the well conducted civil strife of centuries. But, most important of all, he has political as well as civil freedom; he is in full enjoyment of human rights, to take counsel or combine with others as he may think fit in the fur-

therance of his and their interests, and in shaping the new destiny of his class. Will he do so with justice, moderation, and forethought; in the spirit which proper conceptions of history and science are daily placing within the reach of all? The future, not of our industrial system only but of the whole fabric of modern civilisation, depends on the answer to be given to that question.

CHAPTER IX.

PROGRESS OF FACTORY LEGISLATION.

Three Periods of Legislation—Lord Althorp's Act in operation—The Agitation continued—Nature of the Arguments—Proceedings in Parliament—Cognate Legislation: Chimney Sweeps—First Children Employment Commission—Print Works—The Factory Act of 1844—The Ten Hours Act—From 1847 to 1864—Subject and Object of Factory Legislation—Fencing of Machinery—The Half-Time system—Second Children Employment Commission—Factory Act of 1864—Factory Act of 1867—The Workshop Regulation Act—Fourth Royal Commission—Factory and Workshop Consolidation Act—Factory Legislation Abroad.

THREE PERIODS OF LEGISLATION.

The progress of English factory legislation may best be divided into three periods—the period of initiation, the period of experiment, and the period of expansion. The first stretches from 1802 to the passing of Lord Althorp's Act; the second comprises the period between then and 1864; and the third is not yet ended. During the first of these periods the term *factory* is assigned a definite sense and status, which during the second is sought to be maintained by every legislative artifice. In the third, legislation is found taking an ever-wider range and the term loses its distinctive meaning. Long before the present time is reached that new phase in the controversy has been opened, which (however disguised) was really the issue from the first, the immemorial controversy namely of the right of one human being in another's labour, and the appropriate attitude of the

Commonwealth in that regard. As this vast question looms up for settlement once again in history, under quite new conditions, the factory controversy, properly speaking, is swallowed up in it, and one of the principal subjects of this treatise comes naturally to a close.

LORD ALTHORP'S ACT IN OPERATION.

Scarcely was Lord Althorp's Act in operation than numerous imperfections in it appeared. In the first place, some of its provisions did not come into force at all for over two years after they were enacted;[1] in the second place, several of the clauses were drawn so ill as to be absolutely incomprehensible; and in the third place, in the all-important item of administration it was certainly at first a failure. This was not the fault of the Inspectors who had been appointed under it. The first factory inspectors were men of ability, and of unaffected zeal in the discharge of their duties. They were Mr. Horner, Mr. Howell, Mr. Saunders, and Mr. Rickards, among whom the United Kingdom was divided into districts over which they severally exercised supervision and control. Later, some Assistant Inspectors were added, and the number of these latter has gone on increasing, as the area of inspection has widened, while the number of the former has decreased, till at the present time the office is represented by one Chief Inspector, four Superintending Inspectors, and about fifty subordinates.

The defects in the Factory Act of 1833 which excited the greatest indignation were the insufficient provisions made respecting meal times, and the wide margin allowed in the selection of the working hours of protected persons. By combining these two defects

[1] "Thirty months from the passing of this Act" (sec. viii.).

a regular system was devised for outwitting the obvious intentions of the statute, which, under the name of the Relay System, attained an evil notoriety. It is described in Herr von Plener's "English Factory Legislation"[1] (p. 20) in the following words, "After the law had expressly restricted the young labourers to a fixed time of working, which the employers considered too short for their interests, they tried to make arrangements to keep their machines going longer within the legal working day (5.30 a.m. to 8.30 p.m.) than the twelve hours guaranteed to the protected persons, and this they could only achieve by establishing *relays*, which commenced work at different times of the day, and, as the whole of the machinery was at work all the time, so long as one set of labourers was employed, the work of the group which were taking rest had to be performed at the same time, during the relief and meal hours, by the other set of hands, together with their own work." "It is plain," he adds, "that in these complicated combinations of the different hours into which the several periods of labour were divided, the excess of work done by protected persons who had to stay in the factory during the whole working day in order to be ready to take their turn was very difficult to prove without their own testimony, and the factory inspectors, therefore, unanimously declared that so long as the employers had the power to work relays, to fix irregular meal hours, and to continually alter at pleasure the working time of every individual, no legal restriction of the time of labour could be enforced against their will." Another

[1] "The English Factory Legislation," by Ernst Edler von Plener. Translated from the original German by Frederick L. Weinman, with an introduction by Anthony John Mundella, M.P. (Chapman & Hall, 1873).

defect was the unsatisfactory regulations respecting certificates of age. These were to be granted by any surgeon or physician (sec. xii.); but as the judgments of different practitioners varied (even with the best intentions and under the worthiest inducements), it was clearly a very insufficient test. Numerous expedients for gauging the ages of children applying for work were suggested; by the height, the teeth, chest measurement, &c.; and all were equally unreliable. Even a considerable body of pamphlet literature sprang up and circled about this requirement, which remained always a difficulty in factory administration until the passing of the Registration Act.[1] Nor were the difficulties wholly of a medical kind. Parents seeking to send their immature children to factories were not above fraudulently substituting older ones for them, and obtaining certificates for these; which they then transferred to the others; and the employers too often winked at, or openly approved such deceptions. When an inspector visited the works the doubtful cases were hidden under "skips" (large baskets), or otherwise concealed from sight; or their shoes and clothing were stuffed with waste material to make them appear taller and stouter than they were. Another defect was the ridiculously short time within which an Information for an alleged infringement of the law might be laid, namely fourteen days, and another, that manufacturers themselves were no longer prohibited (as under Sir J. C. Hobhouse's Act) from sitting in judgment on factory cases. This duty, performed by

[1] The Reports of the Inspectors of Factories for many years continually allude to this difficulty. See also "The Evils of the Factory System," by C. Wing; "The Teeth a Test of Age," by E. Saunders, and many more similar productions.

them in the present day with perfect satisfaction to all concerned, was in that day often abused. The overworking of any number of children simultaneously by the same employer was construed, for instance, as one offence, and punished accordingly; and a similar tone characterising most of their proceedings under it. It resulted, that in the first year after the passing of this Act the fines exacted bore no proper relation to the magnitude of the offences proved; and in the next year it was worse, and in the next worse still.[1] Unprincipled employers found it more profitable to infringe the law than obey it: and as punishment when at length it was inflicted conveyed no stigma amongst members of their own class, they were continually willing, and often even emulous to do so. Finally, there was a grave suspicion that Government itself gave no great encouragement to its officers in performing their duties energetically, but listened to their complaints about these and the like irregularities with impatience;[2] the enemies of factory legislation rejoiced over every new difficulty as over a great success, and the uncompromising supporters of *laisser faire*, who had predicted disaster from the first, were naturally triumphant.

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[1] In 1835 there were 1,948 factories under inspection, and the number of convictions for offences was 177; so that "every eleventh mill-owner had been proved guilty of an offence against the law, or a lower number had been proved guilty of one or more offences" ("Alfred," p. 83). A year later there were 822 convictions. But what was still more important was that the average of penalties was steadily decreasing. In 1836 it was £2 5s. for each offence; in 1837 it was only £1 10s. ("Alfred," p. 121).

[2] There is a curious story told in Hodder's "Life of Lord Shaftesbury" (Vol. I., p. 216) of a factory inspector having been summarily dismissed from his office because "the faithful discharge of his duties had drawn upon his head the unmitigated feelings of revenge of some of the factory people." He appeals to Lord Ashley against this "monstrous outrage." As this was as early as 1836 this factory inspector could not have held office long.

THE AGITATION CONTINUED.

Under these circumstances the agitation outside parliament, which had partially subsided after the passing of Lord Althorp's Act, was renewed, and soon with increasing energy. The friends of factory legislation were by no means inclined to allow any remediable defects in the law to daunt them, and meetings began again to be held in the manufacturing districts at which the failures of the current legislation were severely commented on, and the need for further action strenuously urged. At one of these, held in Manchester on Dec. 5th 1835, which was very influentially attended, Mr. Hindley (M.P. for Ashton-under-Lyne) announced his intention of re-introducing a Ten Hours Bill applicable not only to the workpeople but to machinery; a decision which was warmly approved; and it was at the same meeting that the curious computation was first made public, and received at first with absolute incredulity, of the distance traversed by a child employed at a spinning mill between the time of leaving home and returning again on a single working day. It was alleged that such a one walked no less a distance than 25 to 30 *miles daily*, and further and very minute enquiries, but in particular the investigations of Lord Ashley and Mr. Fielden,[1] did little, if anything, towards lessening this astonishing estimate.

A prodigious impetus was presently given to this new agitation by some action on the part of the Government, taken in the early part of 1836. It will be remembered how under the Act of 1833 the labour of children below

[1] See also a letter by Mr. Philip Grant, contributed to the *Manchester and Salford Advertiser* of the 20th Dec., 1835, in which full details are given.

thirteen was to be limited to nine hours a day, and that in order to meet the convenience of employers this clause had been given rather more than two years to come into operation. Scarcely was that time expired then when Mr. Poulett Thompson, President of the Board of Trade, brought in a Bill to repeal this provision and thus deprive many children of the relief obtained for them, as well as to greatly limit the future value of the statute generally. The factory reformers were up in arms at once. Oastler, Bull, and Stephens thundered against such a breach of faith on a hundred public platforms, and the friends of the cause in parliament were no less angry and alert. On May the 9th, when Mr. Thompson's measure was introduced, it was met by an amendment, moved by Lord Ashley, "That the Bill be read a second time this day six months," and after an animated debate the Government only escaped defeat by a bare majority of *two*. In such a case it was clearly impossible for them to proceed, and the way was clear for Mr. Hindley's Bill proposing a legislative restriction on the use of machinery, which promised a very interesting discussion. But it never came on. At the request of Lord John Russell the motion was not pressed, that Minister pledging himself that the provisions of the Act of 1833 should be strictly enforced in future. This pledge in the opinion of the operatives was not kept. The agitation for further reforms continued; and getting mixed up about this time with a quite different one against the provisions of the new Poor Law, was conducted for awhile with increasing vehemence, and even violence. Threats began to take the place of argument; suggestions to be made of the extent to which the property of capitalists was after all dependent on the goodwill of workmen, and

the ease with which irreparable injury might be done it without much prospect of detection.[1] The controversy showed signs of extending in unlooked-for directions, and of entering on a new and more alarming phase.

NATURE OF THE ARGUMENTS.

The Government was not unaware of this rising feeling of dissatisfaction among the people, but it had other interests to reckon with as well. Its traditional policy was gravely at issue with any but the least possible interference between employer and employed. Many of the strongest supporters of Ministers were in fact large factory masters, who considered they had already been dealt with exceptionally and unjustly by such legislation as there was, and several of themselves were convinced economists of the current type. It was pointed out by all these authorities alike that the insistance on factory regulations in their entirety must check production in this country; the result of which would be to transfer it elsewhere; and that the nation as a whole would suffer thereby, and a large number of persons assuredly starve, instead of a small number possibly failing from overwork. It was shown how the demands of the operatives grew in proportion as they were conceded, that logically there was no assignable limit to them, and

[1] Oastler said: "Where there is no law there is no property." Stephens: "He who makes war against the labourers' rights is the enemy of man." Fielden: "Laws set at nought may be said to have ceased to exist, and resistance then becomes a virtue." But the greatest commotion was caused by a speech of Oastler's at Blackburn on the 15th of September, 1836, in which he seemed directly to incite the operatives against their employers' property. "If after this," he said, "your magistrates should refuse to listen to your complaints under the Factory Act, and again refer you to me, bring with you your children, and tell them to ask their grandmothers for a few of their old knitting needles, which I will instruct them how to apply to the spindles in a way which will teach these law-defying mill-owner magistrates to have respect even to Oastler's law." In a pamphlet, entitled "The Law of the Needle," Mr. Oastler afterwards attempted to explain away in a harmless manner this rather dangerous suggestion.

so potent did these latter considerations appear in the estimation of some persons that they led about this time to the withdrawal of at least two very distinguished adherents of the cause—Mr. O'Connell and Sir Robert Peel. Those two eminent statesmen, looking more to the future than the present, started back in alarm at what they believed they saw before them, and began thenceforth to throw their weight rather on the other side. In doing so they were undoubtedly mistaken. They failed to perceive that this alarming prospect of further demands was really a consequence of many more social changes then taking place, and they neglected to consider the possibility of other countries following in the wake of England, in factory legislation, as well as factory industry. Their political vision, trained and skilful as it was, did not carry them that far. On the other hand, it is impossible to deny that neither did the advocates of factory reform do their cause full justice in the arguments which they commonly adduced on its behalf at this time. They never seemed to grapple fairly with their antagonists; but rather to avoid meeting them; striving to confine the discussion to the very limited ground which they chose themselves to occupy. To considerations drawn from reason and scientific inference, they opposed too commonly mere appeals to sentiment and emotion: admirable enough in their way, but cogent only within the particular spheres filled by those forms of human activity in determining judgment. Of dreadful facts concerning labour in factories they had an unfailing store; but when the question came to be,—granted all these horrors, will not even greater ones follow if your proposals are carried out?—they had no answer ready. They refused to occupy themselves about that at all.

Their concern, they said, was with the present, and the particular evils of this particular time; let the future take care of itself, and abstract difficulties find their own solution. Such was for the most part their position.[1] Undoubtedly it was a telling, and, as it turned out, it was the winning position. The interests portrayed were near, not remote; the arguments employed were definite and easily comprehended; and the public was largely gained over by their simplicity and the enthusiasm with which they were held and spread. Nevertheless this presentation of the case was really unjust to it. It was inadequate, and to that extent misleading. It retarded, by keeping their essentials in the background, a knowledge of the proper sanctions for that kind of legislation at all; and thereby left a legacy of ill-digested and contradictory conclusions to the next generation, which it has utterly failed as yet to thoroughly surmount. Had Owen been at the helm this would scarcely have been so, for he was a man of large mind as well as large sympathies. Had Sadler been spared, or had even those who succeeded him studied the question as he had studied it, results might have been different. Conducted, as the contest was, by a body of very various men—earnest, able, eloquent, and a few of them accomplished, but almost all deficient in depth of thought and truly comprehensive intellect,—it toilsomely followed no definite course, and has confusedly reached no fixed goal.

PROGRESS IN PARLIAMENT.

On the passing of Lord Althorp's Act, Lord Ashley had temporarily withdrawn from the arena of factory politics. There were many other channels of usefulness into which he might

[1] I am well aware how inadequate is this presentment of either case, but short of quotations from actual speeches delivered (which space will not allow of) some such summary as the above seemed necessary.

direct his great talents, and to one or other of those he gave them for awhile. Having taken up this subject "fairly and conscientiously," he said, "he found that the noble lord had completely defeated him; he should therefore surrender the Bill into the hands of the noble lord; but having taken it up with a view to do good to the classes interested, he would only say—into whatever hands it might pass—God prosper it." Nevertheless, on Mr. Poulett Thompson's amending Bill coming on for discussion he undertook to move its rejection, and did so in a speech of great ability, showing a remarkable practical acquaintance with the subject. Mr. Thompson had contended that children between twelve and thirteen years of age should be permitted to judge for themselves whether the number of work hours proposed for them (sixty-nine per week!) was excessive, and that the refusal to pass this measure would throw 35,000 such children out of employment. Lord Ashley characterised as it deserved the first contention, and proved the utter baselessness of the second. In the next year nothing particular occurred; but in the year following he renewed the attack. His action on this occasion took the rather unusual form of an amendment to a measure introduced by the Government on the subject of Irish tithe. He charged them with having broken their promise (given in 1836) to strictly enforce the law as it then existed, and with wilfully propping up an imperfect statute—knowing it to be such—in the interest of the factory owners. The debate which followed went badly for Ministers, who on a division only escaped censure by a majority of eight. Encouraged by this success Lord Ashley submitted a substantive motion. On the 20th July 1838 he

moved as follows:—"That this House deeply regrets that the law affecting the regulation of the labour of children in factories, having been found imperfect and ineffective to the purpose for which it was passed, has been suffered to continue so long without any amendment;"—and this distinct and formal condemnation of policy was only rejected by a majority of fifteen.[1]

There was no possibility of misreading the lesson taught by these narrow escapes, and Ministers did not attempt to do so. Next year they came to parliament prepared with a measure of their own.[2]

The new Bill proposed to remedy several of the worst abuses complained of. Children were forbidden by it to work in more than one factory on any one day. The regulations respecting certificates of age were to be more stringent. The right to recover lost time (which had given rise to many irregularities) was to be limited to water mills. The educational clauses were to be amended, and all children to attend school for at least two hours a day; and proper meal times were to be secured. These well-meant efforts excited no enthusiasm. "It is a remarkable fact," says Mr. Grant,[3] "that this Bill was unsupported by a single petition in its favour." Nor were there any of the usual delegates in London in support of Lord Ashley's determination to improve its clauses; a circumstance which it may well be believed the Government was not slow to note. Nevertheless his lordship was constant to his self-imposed task of doing so, too constant as the event proved for he

[1] The numbers were: for Lord Ashley's resolution, 106; for the Government, 121.

[2] It was introduced by Mr. Fox Maule (afterwards Lord Dalhousie) on the 15th of February, 1839.

[3] "History of Factory Legislation," p. 64.

eventually carried a clause in committee which led to its complete abandonment. It had been proposed to except silk mills from its operation; which effort, by a vote of 69 to 58, he succeeded in defeating. On the 26th July following Lord John Russell announced that in consequence of this adverse vote the Bill would be withdrawn; and five more weary years had to elapse, and a continued agitation to be kept up, before the many wholesome provisions it contained were at length made law.

COGNATE LEGISLATION: CHIMNEY SWEEPS.

The factory controversy had now been in progress in the country, in parliament, and in the Press for over forty years, and unsatisfactory as some of the results obtained might still appear, the friends of legislation had undoubtedly achieved a considerable measure of success. Not the least valuable consequence of this success was the notice drawn in an increasing degree to other occupations beside those carried on in factories (as then defined). It was as impossible to limit the debate once fully started to textile manufacture, as it had formerly been found impossible to limit it to a single textile staple, the common-sense of the people, no less than the obvious teaching of all philosophy, revolted against such an endeavour. The first of these other occupations to be dealt with in something like an adequate manner was the rather obscure one of chimney-sweeping. This occupation had been specially dealt with before, but in a very insufficient way, and at this time (1840) was again attracting attention. As the first instance of modern legislation similar to that for factories, yet applied to an industry widely differing from factory labour, and as exemplifying

several interesting points both of contact and contrast in that connection, it is worth while recalling the course it followed in some detail.

As early as 1760 there had appeared in the *Public Advertiser* a letter on the sorrows of little sweeps, suggesting, in particular, that masters should be punished if they let them go about without proper covering;[1] and among the readers of that letter was Joseph Hanway, a gentleman of position and influence, then a member of the House of Commons. He took up their cause with vigour. In 1773 he formed a committee of philanthropic persons in London pledged to write to master chimney sweepers on behalf of their apprentices, and in 1785 published a pamphlet bearing the somewhat extravagant title "A Sentimental History of Chimney Sweepers in London and Westminster, showing the Necessity of putting them under Regulation to prevent the grossest Inhumanity to the Climbing Boys," which brought their case definitely before the public. Three years later he was instrumental in inducing parliament to pass an Act forbidding master sweeps to have more than six apprentices, or take them under eight years of age,—and there the benefits of this first statute ceased. Attempts were vainly made in 1804, 1807, 1808, and 1809 respectively, to extend it, and at length in 1817 a Select Committee was appointed to report upon the whole matter. The printed report of that committee, says Lord Shaftesbury, is "a record of sickening horrors."[2] It undoubtedly had a strong reflex effect on the future of the Factory Acts. The early enquiries respecting the condition of cotton mills were going on

[1] "Life of Lord Shaftesbury," Vol. I., p. 295.
[2] *Idem*, Vol. I., p. 29.

coincidently, and people began already to wonder if investigations into other employments might not possibly yield similar results, and to question the assumed exclusive relation of humanity to factory labour at all. The premonitory threatenings of a demand, since often repeated, for an enquiry into the conditions of all industries where profit is made out of human labour, began to be heard. No legislation followed upon it, however, till 1834, when a Bill was introduced providing that no apprentice should be employed under ten years of age, and it was made a misdemeanour to send a child *up a chimney on fire* for the purpose of extinguishing it! This measure provoked violent opposition in the House of Lords. It was shorn there of many valuable provisions (though happily not the last one); nor was it till the year we have now reached that a fairly efficient one (3 and 4 Vict., cap. 85) was at length passed, amended afterwards by the 27 and 28 Vict., cap. 37, from which time the need for special legislation ceased—a machine having been invented which supplanted human labour.

FIRST CHILDREN EMPLOYMENT COMMISSION.

In the same year (1840), on August 4th, Lord Ashley submitted the following resolution to the House of Commons: "That an humble address be presented to Her Majesty, praying that Her Majesty will be graciously pleased to direct an enquiry to be made into the employment of the children of the poorer classes in mines and collieries, and in the various branches of trade and manufacture in which numbers of children work together, not being included in the provisions of the Acts for regulating the employment of children and young persons in mills and factories; and to collect information, &c., &c." . . . . . .

He explained his motive for introducing this fresh subject of investigation to parliament in the following words:[1] — "I have long been taunted with narrow and exclusive attention to the children in the factories alone; I have been told, in language and writing, that there were other cases fully as grievous, and not less numerous; that I was unjust and inconsiderate in my denouncement of the one, and my omission of the other. I have, however, long contemplated this effort which I am now making; I had long resolved that, so soon as I could see the factory children, as it were, safe in harbour, I would undertake a new task." He then proceeded to describe the unhealthy and oppressive character of many employments in which large numbers of children were engaged, and concluded thus: "My first grand object is to bring these children within the reach of education; it will then be time enough to fight about the mode. Only let us exhibit these evils; there is wit enough, and principle enough, in the country to devise some remedy. I am sure that the exhibition of the peril will terrify even the most sluggish and the most reluctant into some attempt at amendment; but I hope for far better motives. For my own part I will say, though possibly I may be charged with cant and hypocrisy, that I have been bold enough to undertake this task because I must regard the objects of it as beings created, as ourselves, by the same Maker, redeemed by the same Saviour, and destined to the same immortality; and it is therefore in this spirit, and with these sentiments—which, I am sure, are participated in by all who hear me—that I now venture to entreat the countenance of this House, and the co-opera-

[1] "Life of Lord Shaftesbury, p. 305.

tion of Her Majesty's Ministers, first to investigate, and ultimately to remove, these sad evils which press so deeply and so extensively on such a large and such an interesting portion of the human race." Mr. Brotherton seconded the motion, which was agreed to without a division, and thus was launched the first of those great Enquiries into the condition of the working classes of this country to which they owe so much, which excited so profound a sensation not alone in the United Kingdom but in almost every civilised country of the world, and whose result has been, among other things, to completely revolutionise the earlier sanctions and status of factory legislation and to give ultimately a new position and meaning to the term itself.

The First Children Employment Commission was issued to four gentlemen, two of whom were Inspectors of Factories. Their names were Thomas Tooke, Thomas Southwood Smith, Leonard Horner, and Robert John Saunders. The secretary was Joseph Fletcher. They commenced their enquiry in the early part of 1841 and the first report, dealing exclusively with mines, was ready for presentation in a little over a year. It occupied (with the table of contents) about 280 pages, and the appendices (contained in two prodigious volumes and illustrated in parts) covered some 1,800 more. The facts disclosed (which were most revolting) are happily but indirectly related to our subject and need not now be dwelt on; but the second report, dealing with trades and manufactures, is very closely related to it. This one was not quite so long; filling, with its appendix, some 1,200 pages; nor was it quite so exhaustive. It showed however only too clearly that many shocking abuses prevailed in other indus-

tries besides those carried on in mines and textile factories, or up the chimneys of noblemen's houses, and it dealt an irretrievable blow to the crude belief that cupidity and competition are particular appanages of any special kind of labour. Though issued in 1843, its good results appeared very slowly; for so difficult of assimilation seemed to be this particularly obvious moral that fully twenty years more had to pass, and yet another Royal Commission to report, before any legislation of a really comprehensive kind was undertaken on account of it.

PRINT WORKS.

Nevertheless, it was not without immediate fruits either. Among the occupations strongly animadverted upon was that carried on in print works. It was strange, perhaps, that the owner of the largest establishment of this kind in the world had been the first person to carry a law for the regulation of factories through parliament, and yet that all notice of this industry had been omitted, but it is not necessary to suspect Sir Robert Peel of a deliberate oversight on that account. The indeterminate notion pertaining to the word *factory* was probably more to blame, and the indeterminate notion pertaining to the principle of factory legislation more so still. A supposed connection between mills and factories still haunted people's minds,[1] and print works were not only not mills but many of the processes then carried on in them were purely handicraft. Again, an imaginary classification of factories as exclusively "textile" works stood in the way, and these were neither in the real nor statutory sense textile. Anyhow, the Com-

[1] For a full statement of the derivative and technical meaning of these terms see "Introduction to Factory System," chap. i.

missioners reported urgently in favour of legislation in this instance, so urgently that Lord Ashley managed to get an Act applying to print works (8 and 9 Vict., cap. 29) passed through parliament the very same year. It differed from contemporary Factory Acts in some important particulars. The sanitary provisions were more defective, and the regulations as to duration of labour and meal times still more wanting in precision. The maximum age for male young persons was 16 instead of 18, and the educational requirements were exceptionally faulty.[1] It is chiefly noticeable as being the first Factory Act recognised as such yet not applying to a statutory factory process.

THE FACTORY ACT, 1844.

In the meanwhile several changes had occurred in the political world, affecting, though not unfavourably as it turned out, the progress of factory legislation. In the course of 1841 the Whig Ministry (in office since the Reform Bill) had resigned, a general election had taken place, and a Tory Ministry had come into power. In this administration Lord Ashley was offered a post, but declined it, his views on the factory question not being in harmony with those of the Prime Minister, Sir Robert Peel. The next year he was busy with the Mines Act, and in the next it was understood the Government were themselves to bring forward a new Factory Bill. This they did. It was introduced by Sir James Graham (Home Secretary) on the 7th of March 1843, and was marked from the first by novel features. The hours of work for children were to be reduced from eight to six-and-a-half per day; to be taken either in the morning or afternoon, but not in both; and the

[1] These special anomalies continued down to 1870, when they were remedied by 33 and 34 Vict., cap. 62.

age at which children might commence to work at all was to be reduced from nine to eight. During five days of the week such children were to receive education either in the forenoon or afternoon at a school approved by the Privy Council. The maximum age of male young persons was to remain at 18; but in the case of female young persons was to be extended to 21. The hours of work for this class of workers ("young persons") were to be twelve on the first five days of the week, taken any time between 5.30 a.m. and 8 p.m., and till 4.30 p.m. on Saturday. Provision was made for the first time for the fencing of machinery in factories; and the recovery of lost time was again confined to those of them using only water power.

Two subjects of discussion were foreshadowed in these proposals destined to fill a large space in the social history of the next forty years. They were the "half-time" system of work, and the "religious difficulty" in education. It was on the latter rock that the present endeavour split. The Dissenters were opposed to State interference in education, and refused to support the clauses making this obligatory, and as they were otherwise among the most powerful and consistent friends of factory reform their opposition proved fatal. On the 15th of June Sir James Graham had to announce that all efforts at conciliation had failed, and the Bill was withdrawn.

It was re-introduced on the 6th of February of the next year, a compromise having meanwhile been arranged: the factory inspector being constituted judge of the efficiency of a school instead of the Privy Council. Most of the other clauses remained the same; with the striking exception that it was now

proposed to extend the protection of the law to *adult women*. Precautions were taken against the notorious frauds which had hindered the due execution of the Act of 1833,[1] the right of filing an Information was extended to two, and in some cases three months after the commission of the offence, notice was required to be given by persons commencing to occupy a factory, and machinery and "mill-gearing" were to be fenced. In whatever aspect it is viewed this was a carefully-prepared measure, and intended to be exhaustive (within the limits of course of the very definite area—textile industry—which alone it professed to cover). But it did not satisfy the more ardent reformers. The ten hours agitation, for a while not prominent, was revived with energy, its advocates being clamorous to accept nothing less, while Sir Robert Peel was equally resolute not to concede this demand. Once again Lord Ashley placed himself at the head of this agitation, undismayed by previous failures and undeterred by present difficulties. He moved an amendment in Committee indirectly raising the old issue, and a remarkable complication ensued. The particular form the difficulty took turned on the definition of the word "night." The Government proposal was that "night" should be understood as extending from eight o'clock in the evening until six the next morning; Lord Ashley's that it should be from six to six,

[1] By the provision of Registers, in which the names of children and young persons were required to be entered; by the requirement that the hours of labour should be fixed by some public clock; by regulations of a more stringent character in connection with the hours of beginning and ceasing work, and of taking meals; by ordering that surgical certificates should be given in future by a qualified medical man appointed by an inspector; by requiring school certificates to be procured and produced when called for; and in several other important ways.

which, taken in conjunction with other parts of the Bill, would practically concede the ten hours day. The Committee first divided on the word "eight" being retained; when there appeared, ayes 170, noes 179; majority *against* 9; and next divided on "six" being substituted, with the result—ayes 161, noes 153; majority *for* 8. Apparently then the matter was carried against Ministers. But they did not so view it. The Committee adjourned, and when it resumed, they were ready with a new proposal, that the hours of labour should be nominally twelve, but with the usual intervals for meals. They were again defeated (183 to 186), but when Lord Ashley's party proposed to definitely substitute ten hours they were defeated likewise, by a majority of 9. Thus the House was in the position of having refused both proposals, and the blank in the Bill remained unfilled. The only way out of such a dilemma seemed to be the immediate withdrawal of the present and immediate production of a new measure, which was the course taken.

Two months afterwards it appeared; the intervening time being filled with much public agitation and discussion. It was to most intents a reproduction of the old one, and to bring the matter in dispute to a crisis at once Lord Ashley moved the addition of a clause definitely restricting the employment of young persons in factories to fifty-eight hours a week. Against this proposal the Government mustered all its strength. The pending vote was declared to be one of confidence, and when taken the event showed these tactics successful. The ten hours men sustained a crushing defeat; the numbers being, for Lord Ashley's amendment 159, against it 297; majority *against* 138. The Bill passed

easily through its remaining stages after this and became law the same year.

THE TEN HOURS ACT.

It is a curious circumstance in the intricate history of factory legislation that often when the hopes of reformers should, by all appearances have been lowest, they were actually highest; that when their cause appeared to have sustained an overwhelming defeat it was in reality on the eve of a great victory. The undercurrents of party politics had probably much to do with this phenomenon, and the confusion gradually overspreading the treatment of the whole subject had certainly some more. This peculiarity was particularly noticeable at the present juncture. On the rejection of Lord Ashley's proposal for ten hours' of work and of the Government's for a nominal twelve, it was generally believed among the operatives that a compromise at eleven hours would be adopted, and some disappointment and even indignation was expressed that that course was not taken. But the leading agitators showed no alarm. Instead of being dismayed at the large majority which had voted against them on the last occasion they assumed an air of even increased confidence, nor did another disaster that presently befel them suffice to check this mood. This latter was the rejection of Lord Ashley by his constituents at Dorchester, to whom he had voluntarily resigned his trust and then offered himself for re-election, upon giving his support to Peel's anti-Corn Law policy. Their confidence was no wise damped. Mr. Fielden was called to fill his place, and satisfaction even openly expressed that his lordship was thereby set free to traverse the country, and agitate the question there,—a course which he did not fail to pur-

sue. A Ten Hours Bill was again presented; and again rejected; but this time by the narrow majority of 10.

A series of events of great political importance (*i.e.* the great Corn Law debate) followed, resulting eventually in the defeat of Sir Robert Peel's Administration and the elevation of Lord John Russell to the premiership. As the latter was deeply pledged to the ten hours principle the moment seemed opportune for a supreme effort.

Very early in the succeeding session (of 1847) accordingly, Mr. Fielden reintroduced his measure. He did so in a notable speech, which, as well as the debate that followed, we shall briefly summarise. It was, he said, in respect to "young persons" similar in its provisions to one introduced by the late Sir Robert Peel thirty-two years before, but it would extend the same protection to adult women. The reason for this proposed extension was that the hours of work for women were far too long, which was the cause of great national evils. He would limit them for women and young persons alike to eleven a day or sixty-three a week, at once, and to ten hours a day and fifty-eight a week from May 1st 1848. In all other respects the provisions of the Acts of 1833 and 1844 were to remain in force. The motion was seconded by Mr. Ferrand, the second reading put down for February the 10th, and on that day and several subsequent ones the matter was discussed. On May the 3rd Mr. Fielden moved the third reading, and Mr. Trelawny "that the Bill be read a third time that day six months." An animated debate followed, and on a division the motion was carried—to the amazement of all antagonists—by a majority of sixty-three. Only ten days later the Bill was

introduced into the House of Lords. There the Earl of Ellesmere delivered a powerful speech in favour of it and Lord Brougham a very vigorous one against it (in which, in particular, he compared the lot of the agricultural with that of the factory labourer, to the manifest advantage of the latter); Lord Clarendon seconded the motion of Lord Ellesmere; the Bishops of London and Oxford supported it, and on a division there appeared: Contents, 53; Non-contents, 11; majority in favour, 42. The second reading passed after this without any division, and the measure soon became law.[1]

FROM 1847 TO 1864.

This enactment closed to all appearance a struggle that had commenced thirty years before and had raged without intermission for the last fourteen. But appearances were unfortunately deceptive. Elsewhere we have warned our readers of the patience required in mastering the details of factory legislation;[2] the present is a notable opportunity for its exercise. The Factory Act of 1847 was of the nature of an amendment to that of 1844, it did not repeal it. Now that Act (of 1844) permitted the hours of work to be taken any time between 5.30 a.m. and 8 p.m. each day provided they did not on the whole exceed the stipulated number, and this gave an opportunity to employers. By the introduction (sometimes no more than the pretended introduction) of the discredited Relay system mills were kept working for this full length of time, and it was impossible for inspectors to secure that protected persons were not kept working in them. Prosecutions taken in face of

[1] Its title in the Statute Book is "The Factory Limitation Act," 10 and 11 Vic., cap. 629.

[2] Chap. vii.

this difficulty produced only contradictory decisions, and the value of recent legislation was thus largely nullified. At length in a test case the Court of Exchequer gave a definite ruling that the Relay system was not illegal. This was all the reformers wanted. An agitation was immediately set on foot to obtain a new law to make it so, and Lord Ashley (who had now returned to the House of Commons) undertook, in the session of 1850, this congenial task. He was met by the Government in a conciliatory spirit. What they proposed was the establishment of a different limit to the working day; namely from six a.m. to six p.m. in summer, and from seven a.m. to seven p.m. in winter, with one and a half hours out for meals; and till two p.m. on Saturday; the effect of which would be to fully surmount the difficulty complained of, but also to increase in doing so the hours per week from fifty-eight to sixty. The ardent advocates of the ten hours day were opposed to this compromise, but Lord Ashley accepted it, and it is doubtful if they ever forgave him. The statute enacting it (13 and 14 Vic., cap. 54) was passed forthwith, and remained the law of this country for fourteen years. By it the ten hours dispute was *really* brought to a close, and under it the *normal working day*, a principle lost to English labour since mediæval times, was re-established through out the whole range of industries affected.

Some defects and inconsistencies which still remained were removed by subsequent legislation, namely by two Acts passed in 1853 and 1856 respectively (16 and 17 Vic., cap. 104, and 19 and 20 Vic., cap. 38); the latter dealing especially with the fencing of mill gearing and machinery; and a new departure followed next. Among

industries unfavourably criticised in the second Report of the Children Employment Commission were those of bleaching and dyeing, which, not being "textile" industries, had hitherto escaped protection. A strong agitation was now set on foot to accord it to them; and without plunging once more into details which might be wearisome to the reader, it will suffice to say that a Bill for their regulation (23 and 24 Vic., cap. 78), introduced by Mr. Joseph Crook, M.P. for Bolton, passed the legislature in 1860, and the following year a similar one dealing with lace works (24 and 25 Vic., cap. 117). The year after bakeries were brought under a much-needed inspection by the Bakehouse Act of 1863 (26 and 27 Vic., cap. 40); and in 1864 a whole batch of new industries followed. But at this point, the point we have selected as properly closing the second epoch in factory legislation,[1] it becomes desirable to pause, and take a survey of the changed aspect of the situation.

SUBJECT AND OBJECT OF FACTORY LEGISLATION.

In a former chapter[2] we had occasion to quote the opinion of "Alfred" that the original motive of factory legislation was supplied by fear, a fear for the public health, which he more than insinuated was of a merely selfish kind. There is truth in this view, but it is not the whole truth. Other motives undoubtedly contributed. We have ourselves suggested another in the considerable religious revival of the 18th century;[3] and a third obvious one was the general liberalising of public sentiment, and its development on the ethico-moral side, which characterised this same epoch. The latter years of that century witnessed almost as rich a

[1] P. 365. [2] Chap. v. [3] Chap. iv.

crop of humanitarian projects as bids fair to mark the closing years of this one,[1] and a more luxuriant crop certainly than has marked any equally definite period of our national history before or since. It was a time of great ferment on all subjects of social concern; the era of criminal reform, of prison reform, of the first effort for negro emancipation, for popular education, of the first attempt to protect "climbing boys." The spirit of philanthropy and fraternity, the characteristic spirit of the European Revolution, was abroad, and still alert and confident. Had it not been checked by the horrors of the premature explosion in France and the exhaustion of the long Continental war; had it not become entangled in the meshes of the new political economy; it is difficult to say to what issues it would not even then have carried us, and in how far the conquests of these later days might not have been anticipated. Unhappily this opportunity was not offered to it then. The struggle for liberty in France degenerated into a shocking display of licence; the effort after equality, both there and here, resulted only in the establishment of a plutocracy in place of an oligarchy; fraternity in practice was found not to exclude economical despotism of the most grinding kind, and philanthropy, in view of such results, became the plaything of poets and mere enthusiasts, and the pet aversion of the philosophic Radicals.

It was under these conjoint and very different influences that the English Factory Acts crept into existence, and, almost unnoticed at first,[2] came to occupy at length

[1] A great many of them have been rescued from an undeserved oblivion, and their story told in a very attractive manner, by Mr. G. J. Holyoake, in "Self-Help a Hundred Years Ago."

[2] Compare Lord Ashley's statement on this head quoted at p. 218.

so prominent a place in the statute book, and they have borne throughout their erratic course, alike in their subject, object, motive, and sanctions traces of that origin ever since. The motives inspiring them, as authoritatively announced at first,[1] were entirely moral and sanitary. Their objects were juvenile apprentices only; their subjects exclusively cotton and woollen mills. It is extremely curious to notice how constantly those subjects and objects became confused afterwards, how the motives and sanctions varied, and how the area of legislation grew and spread without the emergence of any definite principle dominating the whole field of action. The first extension was towards its objects: the persons that is who it took under its care, but not commensurately towards its subjects: the industries that is wherein those persons found employment. *All* children of a certain age (not apprentices only) were brought under protection, but only if they worked in cotton mills; in woollen mills the law remained unaltered. Presently these objects were divided into classes, according to age, different periods of employment being enacted for each class, and a cautious inclusion of some further subjects of legislation was canvassed. Then for a while the contest raged altogether around these subjects. What manufacturing industries were to be included—what excluded? Something like a definite principle seemed to be arrived at when the whole body of those misnamed the "textile"[2] were brought in, but even under that misnomer the category was incomplete: for while the spin-

[1] P. 281.

[2] "Textile manufactures" are properly of course only those that relate to weaving (*texere*, to weave). Compare "Introduction to History of Factory System," p. 79.

ning of yarn was designated a textile manufacture, the spinning of rope was not,[1] while the weaving certain animal and vegetable fibres was of its essence, the weaving of certain mineral products (as wire) was outside it, and weaving itself was only conceived of as a "textile" industry when aided by ultra-human motive power.

Two enlargements had thus been consummated at this stage in two quite different directions and in a manner wholly empirical. From apprenticed or "bound" labour protection had been extended to certain kinds of "free" labour, and from persons employed in one or two special manufactures to persons employed in a particular class of them. Others followed presently, in an equally haphazard fashion. Manufactures having an apparent likeness to the "textile," or being nearly connected with it, were first included; then other industries having a less resemblance but still some supposed connection, then others having no resemblance or connection at all. Then a most important enlargement as to its objects came, and passed almost unchallenged. Adult labour was for the first time brought directly under the operation of the Factory Acts by the legislation of 1844 and 1847 respectively, which extended protection to women. At this point it has seemed to us proper to pause. It is in many respects the most important point that has even yet been reached; the most significant and portentous in view of future action. If adult women, why not adult men?—that is the question that must yet be answered far more fully than it was answered then, or has been ever answered since. The debates of those days furnish indeed little help towards

[1] 9 and 10 Vic., cap. 40.

formulating any answer to it; they dealt for the most part with this extremely grave incursion on personal responsibility in a wholly inadequate manner. In so far as any reasons were given at all, they were usually superficial ones, temporary often in their application and paltry in their conception and expression;[1] they were like many more that have long done duty in this debate—extraordinarily narrow and shortsighted. Thus another quite new principle of inclusion was engrafted on this already novel and exceptional body of laws with consequences which are very far as yet from being all foreseen.

FENCING OF MACHINERY.

Scarcely less striking than the changes thus wrought in regard to the persons who were the objects, and the industries that were the subjects of factory legislation, were the changes in regard to its sanctions which secured acceptance at the same time. From being exclusively moral and sanitary these had become principally material and economic,[2] and were tending to become so altogether. The fencing of dangerous machinery and the shortening of the hours of labour may be viewed indeed in a wide sense as sanitary devices, but scarcely in the sense in which those terms are usually employed, nor were originally employed in this connection. In any case they are not devices directly concerned with morals, with the morals that is of the employed persons, which the earlier legislation professed to have so much at heart. The contest that raged round the requirements for fencing machinery

[1] An exception must be made in favour of the speech delivered by Mr. (afterwards Lord) Macaulay (May 22nd, 1846), a superb effort of rhetoric. Mr. Macaulay supported by implication factory legislation both for men and women on pretty nearly the same grounds.

[2] Compare chap. vii., p. 287.

is particularly interesting from this point of view. It formed the battle-ground which the old economists instinctively selected for trying a final fall with their antagonists, and which on the whole afforded them the most favourable arena for the contest. It was against this proposal that Miss Martineau wrote so exuberantly;[1] and the indignation of the employers at it is to be found "writ large" in the ephemeral literature of that time. Yet it was the very ground selected by an economist of a later day (one of the few English writers of eminence on factory legislation) as furnishing an undoubted justification for it. Mr. Jevons, in almost the first sentences of his interesting little work "The State in Relation to Labour" uses it as his prime example of the desirability of exterior control in factories. "Imagine" he says, "for the sake of illustration, that there is in some factory a piece of revolving machinery which is likely to crush to death any person carelessly approaching it. Here is a palpable evil which it would be unquestionably well to avert by some means or other. But by what means?" . . . He concludes, on the whole, the most simple and effective to be, that "the law may command that the dangerous machinery shall be fenced, and the executive Government shall appoint inspectors to go round and prosecute such owners as disobey the law." This is a

[1] See her pamphlet "The Factory Controversy" (Manchester: Ireland and Co., 1855), in which, in particular, she fell foul of Charles Dickens and Mr. Horner for their expressed opinions on this subject. The doctrine of the "orthodox economists" in regard to State interference for the protection of life and limb may be studied to great advantage in this essay. A good *résumé* of the precise position of the law at the same time may be found in Notcutt's "Factory and Workshop Acts," pp. 67-73. It must not be forgotten however that the views enunciated by Miss Martineau are the undoubted convictions of some of our best individualistic thinkers and writers still.

very striking instance of change in respect to the supposed sanctions of protective labour laws. For it must be remembered that dangerous machinery is not confined to factories, and machinery itself is only an adjunct to, not an essential of any factory system. Under such a contention the early reasons pleaded for legislation lose their significance as completely in this direction as in those others where the objects were first limited to apprentices, and the subjects to special textile staples, and a far wider application is implied. The very steps, of the progression too, may be traced in the Acts themselves. The first Factory Act took no notice of danger from machinery. That of 1844 applied only to machinery "near to which children or young persons are liable to pass or be employed." A subsequent one (19 and 20 Vic., cap. 38, sec. iv.) included for the first time "women." The latest[1] omits all qualification as to persons and makes the requirement absolute.

THE HALF-TIME SYSTEM.

The educational provisions which eventuated in the "half-time system" seem at first to form an exception in this purely material progress, but will do so only as long as their history is ignored, or at least they will not do so to the same extent after that is recalled. The origin of this device merits indeed a brief record on its own account, for it was not a little singular. No special time was named in the earlier Acts for giving instruction to children employed in factories, and it was consequently given (if at all) after work was done, and on Sundays. Such education was a mere prolonging of labour at the expense

[1] 41 Vic., cap. 16, sec. v. The Employers' Liability Act is on the same lines, no difference being made in the responsibility incurred by employers towards adult or youthful labour.

of leisure, a base method of depriving the children of the few hours of repose and play they would otherwise have had, and they naturally hated it, even more perhaps than they hated their regular work.[1] Now, when the first Royal Commission on factory labour was appointed, it was well understood that one of its provinces was to find some popular substitute for the Ten Hours Bill,[2] and its members cast about accordingly with much assiduity for an opportunity of doing this with a good grace. A Ten Hours Bill meant, it must be remembered, ten hours of work for everyone employed: men, women, and children alike: and the Commissioners, it will also be remembered, reported these hours to be too long for children and proposed to reduce them to eight. But what were the children to do during the remaining two? Employers declared they would merely loiter about and idle; and so benefit nothing by the time gained; the operatives said they would most probably be taken from one factory and set to work in another, and that this evasion of the law could not be prevented. An ingenious mode of meeting both arguments presented itself in the very sensible suggestion[3] that the time saved from labour should be spent at school; and in this characteristically casual escape from a pressing difficulty we recognise now the seed that has since borne such excellent fruit, and even the first step towards a system of general compulsory education, to which this country has been, and will assuredly continue to be, so much indebted.

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[1] For a very pertinent instance, see chap. v., p. 205.

[2] P. 304.

[3] I believe this suggestion was first actually made by the late Sir Edwin Chadwick.

SECOND CHILDREN EMPLOYMENT COMMISSION.

Meanwhile a second Commission had been issued to enquire into the employments of the population, especially its juvenile members, the gentlemen forming it being Hugh Seymour Tremenheere, Richard Dugard Granger, and Edward Carleton Tufnell. The labours of this Commission extended over four years (from 1862 to 1866), were prosecuted with great ardour, and, says Herr von Plener,[1] "to an almost complete exhaustion of the subject." . . . . . "The Commissioners had a much easier task"—this writer continues—"than their predecessors in 1840." . . . . . "The decided improvement in the condition of the textile labourers in moral and material respects, and the continuous increase in production notwithstanding the reduction in the hours of labour, had gradually convinced the manufacturers, and the public at large, that their original violent opposition to the legal reduction of labour was fallacious and groundless, and that a further extension to other branches of industry would not be fraught with such ruinous consequences as had been generally supposed and predicted in 1843." The conditions of nearly every manufacturing industry, and of several not manufacturing, were elaborately investigated, Reports were issued from time to time, numerous recommendations made, and the first important result seen in the enactment of a new Factory Act (27 and 28 Vic., cap. 38) which contained some remarkable novelties.

FACTORY ACT OF 1864.

This Act was passed on July 25th 1864, and in it a decisive step was taken. The previous legal conception of a factory as necessarily a place where only textile fabrics are pro-

[1] "English Factory Legislation," p. 56.

duced, and mechanical power necessarily employed in their production, or as a place at least in some way related to those products and that mode of producing, was now formally abandoned, and several new conceptions of it evolved. It applied first, to four kinds of manufacture, not textile; and next, to two kinds of "employment"; originating in each instance a special definition. The new manufactures were: (*a*) The manufacture of earthenware—"except bricks and tiles not being ornamental tiles"; (*b*) The manufacture of lucifer matches; (*c*) The manufacture of percussion caps; (*d*) The manufacture of cartridges. The "employments" were: (*e*) The employment of paper staining; (*f*) The employment of fustian cutting.[1] The last two classes of works introduced, it is obvious, a completely new interpretation of the term factory. In the instances of the laws relating to bleaching, dyeing, printing, and the like, those occupations had been expressly excepted from that term; being in the position only of occupations to which the principles of factory legislation had been extended—like mines or bakeries.[2] In the present instance the opposite was the case. Establishments in which any of these six named manufactures, or *employments*, were carried on were distinctly cited as factories; and this great novelty was grafted on the existing body of law with as little concern, or prevision of results, as ten years earlier had been the inclusion for the first time of adult labour. The argument was that in those particular industries particular hardships prevailed, and therefore the places where they were pursued required to be particularly

[1] 27 and 28 Vic., cap. 48, sch. 1.

[2] See Notcutt's "Factory and Workshop Acts," Introduction, xiv., xv.

cared for; an excellent argument, the same in fact that Sir Robert Peel first used in demanding special legislation for cotton and woollen mills. But where was its definable limit—its logical conclusion? If these employments, as well as manufactures, why not any others where hardships equally as great might be found; why not all such? Was it then the severity of the work that after all constituted a work-place a "factory"? This was opening a wide door indeed.

FACTORY ACT OF 1867.

Nor was it fated to be closed for some time to come. Through that wide opening there presently issued (as was to be expected) a whole procession of other occupations demanding protection on the same grounds as the above, or rather upon any of the numerous ones which had now become sufficient grounds for interference, and the Factory Acts Extension Act (30 and 31 Vic., cap. 103) afforded it to most of them. Under the provisions of this Act the term *factory* obtained no less than from *thirty-five* to *forty* separate definitions, including old categories and new. But further, it created yet another category of its own, one no longer of any special kind at all, comprising "*any premises* . . . . . constituting one trade establishment. . . . within the precincts of which fifty or more persons are employed in any manufacturing process," the last expression being further defined[1] to mean "any manual labour exercised by way of trade, or for purposes of gain, in, or incidental to the making of *any article!*" The transformation was now well nigh complete. Subject, object, materials of manufacture, even at length manufacture itself, all had

[1] Sec. iii., 7.

failed to afford a consistent principle of inclusion, while every legislative artifice coincidently adopted to maintain this hapless term in something like its old meaning had alike come to nought. "No longer professedly to meet the temporary inconveniences induced by unwonted combinations of labour was that labour . . . made the object of statutory enactment, but as employed labour simply, whether in isolation or combination." . . . "The argument by which principally the older Factory Acts had been brought to a successful issue, namely that an unprecedented code of laws was requisite to deal with an unprecedented condition of national affairs, was silently and finally dropped, and even the argument from machinery . . . . . was forgotten or ignored."[1] Machinery as a necessary characteristic of a factory had indeed been given up some time before;[2] and to all appearance it only remained now to add places where less than fifty persons were at work to cover every material industry.

THE WORKSHOP REGULATION ACT.

This last feat was undertaken accordingly within the same year by the Workshop Regulation Act (30 and 31 Vic., cap. 146), the preamble distinctly stating no less than that to be its object.[3] A set of similar (not the same) provisions

[1] Article in the *Westminster Review* for January 1877, "The Factory and Workshop Acts," p. 47.

[2] P. 397. It is worth recalling too that in the instance of the employment of chimney sweeping it was the adoption of machinery that actually did away with the need for legislation.

[3] The preamble ran as follows: "Whereas by the Factory Extension Act, 1867, provision is made, amongst other things, for regulating the hours during which children, young persons, and women are permitted to labour in any manufacturing process conducted in an establishment where fifty or more persons are employed: And whereas it is expedient to extend protection so far as respects the regulation of the hours of labour to children, young persons, and women working in smaller establishments. . . . Be it therefore enacted," etc.

were applied to places called workshops as hitherto to places called factories, and the new term defined. "Workshop" shall mean (sec. iv.) "any room or place whatever (not a factory or bakehouse), whether in the open-air or under cover, in which any handicraft is carried on by any child, young person, or woman, and to which and over which the person by whom such child, young person, or woman is employed has the right of access and control"; and "handicraft" was to have the same signification as "manufacturing process" under the Factory Acts. These two definitions prescribe the extent of the operation of this Act. It is difficult to conceive a more unnecessary complication than its separate enactment and the separate designation it introduced. Technically, practically, historically, and even etymologically, the term factory was just as available as workshop; it had already been widely availed of in a like sense (as we have seen); and the conditions of labour covered by both statutes were essentially the same.[1] It differed from the Factory Acts already in operation chiefly in the following particulars. The hours of work for children might be taken any time between six a.m. and eight p.m., and for young persons and women between five a.m. and nine p.m. (instead of during the normal factory working day), but within those limits the total time worked was to be the same. Certificates of age were not required; and the obligation on children to attend school "half-time" was altered to an obligation to attend ten hours a week. It contained certain modifications, hitherto not definitely provided for factories, and registers of employed persons were

[1] What possible difference is there *in fact* between a place where 49 persons, and a place where 50 persons, work in the same handicraft? Why should a rope-walk be a workshop, a printing office a factory?

not (as in their case) required to be kept. It differed also in the attempt made to alter the system of inspection by placing the supervision of workshops under local authorities. The immediate precedent for this was the Bakehouse Act, where a similar method prevailed, but the chief interest of this experiment arose from its resemblance to other and older systems of supervision, and is increased by the high probability that this method, properly applied under due safeguards, and in accordance with modern methods and ideas, is destined to furnish hereafter the only sufficient machinery for dealing with the enormous accession of duty that continues to be thrown on the administrative of the factory Office. As a fact, the experiment in the present instance failed, but that was because the local authorities generally failed to do their duty, and the central authority did not compel them to it. In the few instances where the obligation was adopted heartily the result was a conspicuous success. Finally, after four years of unsuccessful trial, the Workshop Act was handed over to the factory department to carry out, and having been administered separately for a while alongside existing Factory Acts was ultimately (1878), after a brief and troubled career, incorporated with them.

THE AGRICULTURAL CHILDREN'S ACT.

We have next to turn for a brief space to a different form of industry, the most ancient and important of all. The statutory definition of a workshop—"Any place whatever, *whether in the open-air or under cover*, in which any handicraft is carried on"—might by a not very strained construction be understood as covering employment in agriculture, but it was not so construed, and was not so meant. Agriculture as well as manufacture had

engaged however the attention of the second Children Employment Commission, and from the time when its later Reports were issued, attempts, more or less sincere, were made from time to time to bring the former as well as the latter under Government control. The difficulty of applying any similar code of regulations to industries so dissimilar was however very great. "The labourer in the fields is both naturally and historically, as well as economically and actually, a person occupying a very different position in the body-politic from the labourer in the factory or the forge. . . . . The 'kindly fruits of the earth,' which are his especial care, are such as only to be enjoyed 'in due time': they are not the products of merely mechanical appliances set in motion by an unintelligent force acting with undeviating regularity."[1] After considerable delay, and some rather mysterious political manœuvring, a statute The Agricultural Children's Act (1873)[2] was passed, professing to meet the requirements of the case, but it was altogether contemptible and unmeaning. For its enforcement no legislative provision was made; it never was enforced; and only three years later was repealed. To the present day there is no special statutory regulation of agricultural labour in this country.

FACTORY ACT OF 1874.

A generation had now elapsed since the great battle of the Ten Hours Bill was lost and won. Under its provisions (but slightly altered) our manufacturing industries had enjoyed extraordinary prosperity; in imitation of it many valuable measures had been added to our statute book;

[1] Article by the present writer in *Fraser's Magazine* for May, 1876, p. 574: "The Agricultural Children's Act."

[2] 36 and 37 Vic., cap. 67.

and it had already furnished the model for several laws of a like kind abroad. Only a few unbending individualists were still to be found here and there who any longer questioned the value or doubted the success of such legislation. But the great Factory Controversy was nevertheless not ended. Far from it. It was but passing into a new phase. What had been done hitherto was after all only in the one conspicuous direction of organised material labour, and had not nearly exhausted that sphere of action; there were wide fields of productive energy beyond which had been scarcely glanced at, and vague regions beyond those again over which the most industrious government Commissioner had not as yet even cast an eye. There was, moreover, the fundamental question still unsettled, of the proper objects of this kind of legislation at all; and it will fall to us now, in conclusion, to describe the characteristically indirect manner in which those neglected fractions of the general whole were brought to the front at length, and a new and arduous campaign on behalf of suffering humanity once more inaugurated.

While the Agricultural Children's Bill was being agitated in rural parts of the country two other agitations of a special kind had been proceeding in the factory districts. Both had particular reference to textile factories and were marked by considerable similarity in their origin and conduct. The first was as to the employment of mothers in such factories (upon whom exceptional disabilities were sought to be imposed), the second as to a further limitation of the hours of labour in them, also professedly for the benefit of women and children. With regard to the first of these agitations

it was suspected, with regard to the second it was partially acknowledged, that the real interests which under those guises were being advocated were the interests of men. Any curtailment of women's work in a factory almost necessarily brings with it (where both work together) a curtailment of men's, and impediments raised up against the industry of the former should, according to the current political economy, afford increased opportunities of employment to the latter. It will not be necessary here to say much of the first, for it proved abortive. As soon as it was shown that the rate of infant mortality was not higher in factory districts than elsewhere, but *rather the reverse*, the whole elaborate superstructure which had been founded on this imaginary basis tumbled together like a house of cards.[1] The latter was, on the contrary, a complete success, and eventuated in still another Factory Act, whose origin too was sought to be clearly marked by the implication contained in its title. It was called "An Act to make better Provision for Improving the Health of Women, Young Persons, and Children employed in Manufactures, and the Education of such Children, and otherwise to Amend the Factory Acts" (37 and 38 Vic., cap. 44). Its general effect was to reduce labour in textile factories as compared with other factories by half-an-hour a day; to raise the minimum age at which a child could be set to work from eight to nine years immediately and ultimately to ten; and it made it illegal to employ a young person under fourteen for a full day who had not passed

[1] I showed this first in a paper read at the Social Science Congress held at Glasgow in 1874, and again at a similar meeting at Nottingham in 1882. Also in two articles contributed to the *Fortnightly* and *Contemporary Reviews* respectively, in May 1875, and September 1882.

a particular educational test. The word "health," so conspicuous in the title, never appeared again throughout.

Unimportant as this Act was, except to a particular class of workers, it gave rise to a very important debate, more important even than it appeared to many who took part in it at the time, and far more comprehensive than the circumstances of the particular occasion might seem at first to justify. For the interest of that debate did not circle round small details, as heretofore, nor did the employers appear in it this time as irreconcilable opponents of the operatives' claims (they gave way indeed for the most part with a rather astonishingly good grace), but almost for the first time was discussed in parliament the actual grounds on which adult women were dealt with in these laws on the same plane as "young persons," while adult men were treated otherwise. Such a debate had become inevitable. The movement for the "emancipation of women" which had been going on for some time in England and America had made it so, even if the rather transparent pretext that underlay this agitation all through had not forced the subject to the front. It is a debate which is far indeed from being closed yet, and which may some day take some very unexpected turns. Meanwhile the immediate result was to prepare the way for almost the first retrogression that had yet occurred in factory laws by seceding from the strong position occupied by the dual Acts of 1867, strong in despite of even that dualism. A "woman's party" was formed whose object was to remedy the inequality complained of, not by including men, but withdrawing women, and which was sufficiently powerful to impress its views on subsequent legislation.

With the rise and development of this new feature of the factory controversy we find ourselves rapidly approaching the position to-day.

FOURTH ROYAL COMMISSION.

The Factory Acts Extension Act and Workshop Regulation Act (1867) had given, we have seen, the *coup de grâce* to all old notions of factory labour. The Agricultural Children's Act had made a half-hearted pretence of extending the same kind of legislation to agriculture; the Mines Acts had dealt with labour underground. What wonder that the next move was from commodities to services, and from production to exchange? There remained indeed (outside the great sphere of distribution, as yet scarcely touched,) but these and the remoter one of immaterial products, to almost exhaust the whole round of man's attitude towards wealth creation. Scarcely had the above Acts become law, accordingly, than new agitations sprang up on several of these subjects. Shop labour, wandering occupations, even at length domestic service,[1] began all to put forth claims for the application of a factory legislation (so-called) to them, and the whisper of a demand, since become very audible, to include transport in the list, and claim protection for it too, was heard. At the same time the current law as to factories, and as between factories and workshops, and the current practices and notions in regard to those places and their relations one to another, had reached a pitch of confusion well nigh intolerable.

To consider these novel claims, and assimilate those contending statutes, a time-honoured device was resorted to. A Royal Commission was appointed in 1875 to

[1] I believe this claim was first seriously made at a Trades Union Congress at Dundee some twelve years ago.

take the whole matter in hand.[1] It approached its task with commendable industry. Seven hundred witnesses were orally examined, in addition to a vast mass of written matter laid before it; the separate questions asked and answered in person reaching alone to the appalling total of 20,892. Its recommendations (which were not quite unanimous) are too long for insertion, and as most of them were embodied in legislation immediately afterwards they can be most conveniently dealt with when we treat of it. Suffice it to say here that the result was disappointing. The Commissioners failed to grasp with foresight and resolution the considerable opportunity which was undoubtedly placed at their command. The terms of the Commission had submitted for their consideration, not only "the consolidation and amendment of existing laws," but also "whether any of their provisions may be properly extended to other trades, industries, and occupations,"[2] but anything constructive in their Report dealt almost exclusively with the first of these matters. They brought together indeed existing Factory Acts into one statute; thus nominally consolidating factory legislation; and they introduced some novel distinctions, but they made no provision for the future. They failed even to realise the obvious needs and aspirations of the present, which accordingly soon proved too much for them. Their announced purpose was to relieve minor industries from

[1] This Commission was issued to Sir James Fergusson, Lord Frederick Cavendish, Lord Balfour of Burleigh, Sir Charles du Cane, Henry Robert Brand, Thomas Knowles, and Charles Owen O'Conor ("the O'Conor Don"). The secretary was Sir George Young.

[2] "Report of the Commissioners Appointed to Inquire into the Working of the Factory and Workshop Acts with a view to their Consolidation and Amendment" (c. 1443, p. 111).

the pressure of legislation and secure more independence for adult labour; and the result has been to set in force a new demand for more legislation in precisely these directions, it was the immediate cause of the outcry against "sweating." Their declared object was to simplify the law as between factories and workshops; their mode of doing so more than doubled the distinctions already in existence, and made the law far more difficult of application than before.

FACTORY AND WORKSHOP CONSOLIDATION ACT.

The Factory Act (41 Vic., cap. 16) which was the outcome of this Commission is that which is now in force. It deals with five classes of works as follows:—Textile Factories, Non-Textile Factories, Workshops, Workshops in which neither Children nor Young Persons are employed, and Domestic Workshops.[1] A Factory is a place in which machinery is moved by the aid of steam, water, or other mechanical power; and they are of two classes, Textile Factories and Non-Textile Factories (these distinguishing terms being "now first used in an Act of Parliament"). The definition of a Textile Factory remains as under former Acts, and the regulations affecting them are (with some exceptions) the same. The term Non-Textile Factory has a very comprehensive meaning. It applies not only to the various occupations enumerated in the Acts of 1864 and 1867, "whether using power or not;" but "includes, in addition, all unnamed occupations in which mechanical power is used." This definition "releases from the special factory regulations all those occupations which were factories under the

[1] Abbreviated from "The Factory and Workshop Act, 1878," by Alexander Redgrave, C.B. Third Edition. Pp. 5-9. (Shaw and Son, 1885).

Act of 1867 by reason of fifty persons being employed, and in which mechanical power is not used;" which fall therefore into the succeeding category. . . The next class of works is those in which no power other than manual is made use of. They are called Workshops. "In these the hours of work and meals, the sanitary condition and education are strictly provided for as in factories; but unless circumstances satisfy the Secretary of State that they are required, registers and certificates of age and fitness will not be compulsory." The next class comprises Workshops in which none but women over the age of 18 are employed. "In these workshops the actual time of work and of meals must be the same as in Non-Textile Factories but with more elasticity of arrangement, and the sanitary condition is to be cared for by the sanitary authority." The last " are workshops carried on in a private house, room, or place in which the only persons employed are members of the same family dwelling there,"[1] and in them the above conditions apply only as to the employment of young persons and children; the employment of adult women being unrestricted. Certain industries (straw-plaiting, pillow-lace-making, and glove-making) are, however, exempted even from these modified regulations, and left "altogether free"; and the Act "also exempts any handicraft which is exercised in a dwelling house by the family dwelling there, at irregular intervals, and does not furnish the whole or principal means of living to the family."[2] Finally, a power is reserved to the Secretary of State to add to these lists of excepted places at his discretion, and promulgate further

[1] Sec. 16. [2] Sec. 98.

modifications of the law as regards others; and workshops where men only are employed are (unlike factories) always outside its scope.

It would possibly be improper, it would certainly be indiscreet to criticise this statute in detail. The simplifications and consolidations effected by it may well be left, to speak for themselves, after this *résumé*, and will do so very eloquently if viewed in connection with what are now the uppermost considerations in the public mind on this wide question, and what is the present public action in regard to it.[1] A striking feature was the intrepid attempt to affix quite a new signification to the general term factory, on the basis of motive power, which fails on the first application,[2] and another, the nice distinction which regulates the hours of labour for all persons employed in a particular class of workshops by the age at a particular time of any one person among them.[3] But the important thing historically is its attitude towards the Acts of 1867, in which factory legislation reached its zenith in this country. At that time it was the obvious intention of the legislature to cover the whole field of material industry, so far at least as those persons assumed to be the proper objects of legislation were concerned. The preamble to the Workshop Regulation Act makes this plain.[4] But the scope of the present Act restricts this intention: by exempting

[1] There were *five* new Factory Bills before parliament at its last session (1891), and one of them, containing some significant provisions, was actually enacted (54 & 55 Vic., cap. 75).

[2] The exceptions to the category (*i.e.*, factories which do *not* employ motive power) are nearly, if not quite, as abundant as the members of the category itself (41 Vic., cap. 16; sec. 93, and sch. iv., part 1).

[3] See preceding page.

[4] *Ante* p. 403.

certain kinds of workshops, some partially, some totally, from official control, and by raising new obstacles against the protection of adults: and the result has been an immediate demand for far more comprehensive legislation for them. Such a one is in full accord with the whole history of this subject, and should have been foreseen. The insanitary condition of textile factories was the original source of the demand for factory regulation; onlookers being concerned for their own health; a motive largely reinforced as time went on by a strong wave of philanthropic feeling which at that time overspread the country. But when public attention was fully roused on this matter; as it came to be soon after the close of the great European war; far wider reforms began to be called for and far other sanctions to be pleaded. From considerations affecting only the general good, the argument proceeded to the personal claims of workers to the protection of the State, on their own account, as free-born citizens yet subject to a rigid economic despotism, as labourers voluntarily bearing for others the prodigiously fruitful yoke of competition; and in the case of men this took at first the form of a repeal of the Combination Laws, and in the cases of women and children of the institution of Factory Acts. It is of the highest importance to the best interests of civilisation that this matter should be clearly understood. It is not enough to show up the tangled web of factory legislation, as has been done, it is proper too to give the clue to it. Labour in the purely economical sense is a commodity and nothing more; like any other commodity sent into the market to be bought and sold at its exchange value, independently of any other obligations or relations that

pertain to it. But labour in the political sense is the accumulated energies of living, sentient, human creatures, which cannot be disposed of after this rough and ready fashion without cruel wrong. When therefore industries are said to be rendered more "free" by withdrawing them from under the cognisance of law, the industries indeed (the subjects of the action) may be freer, but the workers (the objects) are simply handed over to the dominion of an irresponsible force, which must fulfil its destiny at whatever cost to the instruments, and however poignant and widespread the misery created. It is justly claimed for these laws then that they are the exponents, not opponents of freedom, of freedom from the compulsion of abject necessity and the gross greed of gain, whether that greed and that compulsion be represented in the person of an individual or the tendency of a system.

FACTORY LEGISLATION ABROAD.

Factory legislation abroad has followed pretty generally the course familiar here, difference of time and place being taken into account. Where it was early applied to industry, it was applied at first in the same special manner, the term factory retaining its limited (and still most usual) meaning, and evolving new ones as new industries were brought within its scope. In other instances, where legislation has been more recent, either this term has not been used at all or been one among several, and the laws have borne some other title than the misleading one of Factory Acts. The following are some examples of foreign legislation, but the list does not profess to be either accurate or exhaustive.

The first country of Europe that adopted the principle of the English Factory Acts was Prussia.

A law of the 9th March 1859 imposed certain restrictions on the employment of children and young persons employed in textile industry; that is of persons under nine and under sixteen years of age respectively. Other States of Germany followed: Bavaria in 1840, Saxony not till 1861, the North German Confederation in 1869. In all these the principle of protective labour legislation has now been very much extended. Sweden was comparatively early in the field. A Royal Ordinance dealing with manufactories and handicrafts was issued on the 22nd of December 1846, and is still in force. Norway was much later; no action being taken till 16th May 1860. In the same year Austria promulgated a factory law (it is actually dated December 20th 1859); and Hungary followed, but not till 1872. A very efficient one is now in force all over the Austro-Hungarian Empire. France was but little behind Prussia. The earliest law on the subject was enacted there in 1841, the ages for children and young persons under it being respectively fixed at eight and sixteen years. Belgium, on the other hand, lagged shamefully behind, almost nothing being done till two years ago. Only quite recently has anything been attempted in Holland, but a very efficient law has now come into operation.[1] In Switzerland a few cantons led the way as early as 1862; others have followed since; and legislation is now general. Neither from Italy nor Spain have we any definite information. Portugal has been busy with a rather comprehensive statute during the last two years. In Russia there has been a Factory Act in force only

[1] It is actually dated May 5th 1889.

since 1881. The United States of America have no general system, but different States have different laws; while a few are without any. Those laws have also been adopted at very different times. In India there is a Factory Act, but a sadly inefficient one.[1] In the civilised parts of Australia one of a very comprehensive kind is in operation; and in New Zealand a stringent law has been in force since 1873. Many of these laws do not apply to adult women, but the last named does so in a particular degree. It prohibits them from working for more than eight hours a day, or at night at all; and not from 2 p.m. on Saturday to the following Monday. More lately, both in some of the American States and some of our own Colonies, the principle of an eight hours day for all workpeople alike has been introduced; but this experiment is too novel as yet, and too informal, for it to claim to occupy a definite place in factory legislation. In so far as we have anything to say on that subject it will be better said hereafter.

On a general review we believe there is at present a marked tendency among other countries to come up to the English standard in this matter, and in several of them even symptoms of a desire to surpass it.

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[1] Only children between seven and twelve are protected by law at all, and these may be kept at work for nine hours a day.

CHAPTER X.

RESULTS OF THE FACTORY SYSTEM.

Limits of the Enquiry—Mode of Procedure—The Domestic Result—The Sanitary Result—The Moral Result—The Intellectual Result—The Economical Result—The Æsthetic Result—Reflections and Anticipations—Labour in Shops—Adult Male Labour—Commodity and Service—Immaterial Products—The Eight Hours Day—Co-operation—Fresh Motors—Last Words.

WHAT now are the results of the modern factory system?

LIMITS OF THE ENQUIRY.

In endeavouring to supply a few answers to that enquiry it will be well to commence by stating beforehand within what limits they must be necessarily confined. First, and most obviously, there is the limit imposed by a proper conception of the term: What *is* the modern factory system? It may be hoped that this point at all events has been made clear.[1] The next limit is one of time. Our enquiry is only of results up to *now*. Further ones that may follow—should the same system continue—may be imagined or guessed at, but cannot be criticised, any more than it can be foretold for certain if that system will continue, or the action taken in regard to it change. One hundred and fifty years too is obviously a very short time to judge from. It is no more than the length of two long lives, and conclusions drawn from so short an experience must suffer in validity by that insufficient prospect. A third limit is prescribed by the kind of results to be indicated. They

[1] Chap. i., p. 3.

are not commercial results. On the contrary, those are explicitly excluded.[1] They are not mechanical results; except in so far as these are incorporated with the lives and fortunes of the workers; and they are only economical results to the same extent. What it is proposed to enquire about are certain results of the Modern Factory System, modified by legislation and by other influences, in the manner that has been described, on the character and condition of the operative class, and through them on the condition and prospects of the country at large.

MODE OF PROCEDURE.

A convenient mode of procedure in this enquiry will be to recall, in the first place, what was formerly in authoritative quarters foretold of the factory system, and consider to what extent those predictions have been fulfilled. Afterwards we may discourse more at large on the general theme. This earlier matter may best be divided again under the following headings: answering as nearly as possible to supposed urgency in the allegations made:—First, the domestic result; second, the sanitary result; third, the moral result; fourth, the intellectual result; fifth, the economical result; and sixth, the æsthetic result; and these several branches of the enquiry will next be dealt with as briefly as is consistent with clearness, the abundant statistics accessible upon every one of them being for the most part omitted, and any elaborate justification of our own opinions withheld. The object of this work, we may explain for the last time, is rather to indicate the relation of the factory system to contemporary events and phenomena than to pretend to offer full information upon any intrinsic facts connected with it.

[1] P. 43.

THE DOMESTIC RESULT.

Upon no point did more unanimity of opinion prevail apparently at the origin of the new system than as to its probably injurious effects on domestic life. It would be ridiculous to quote testimony to this end, for it is matter of common notoriety. Whatever other results were predicted of it from time to time, and both by friends and enemies alike, it was generally allowed, nay assumed, that the factory system must be destructive of the happiness of the domestic hearth, and fatal to the tender ties of home and family. We have shown in an earlier chapter (chap. ii.) how fully these feelings were shared at first by the operatives themselves; how they struggled for long against the inevitable on exactly those grounds; and even at length openly took the field at their urgent inspiration, and in opposition to the fate which they plainly saw was overtaking them. Those tumults were suppressed by force, and a few —a very few—public-spirited persons made isolated efforts afterwards to render the lot of their work-people less hateful to them, while the majority satisfied their consciences with the doctrines of the current political economy, which had a ready answer for all such complaints. But it does not seem to have occurred to many persons then, nor since, to investigate the reverse side of this situation; to enquire, that is, what was in very truth this domestic life from which the operatives were being rudely torn away: its relation to human health and progress, rather than to their own limited conceptions of these things. It was one, we know, to which they had been long accustomed; which was endeared to them by many memories; which undoubtedly had its bright side; but so much may be

said of even the most degraded modes of existence to which habit has reconciled mankind. The progress from a lower to a higher stage of civilisation is often extremely painful, and there is some reason to suppose that this was really the drama that was being enacted then. Besides, if there were a bright side often to domestic industry, there was often also a very dark one.[1] Upon the prolonged agony of the hand-loom weavers we need not dwell; for their case is well known;[2] nor reproduce again that terrible description furnished by Thomas Cooper of the condition of the Leicester stocking-makers (quoted on an earlier page);[3] but it does seem necessary to recall the fact that infant as well as adult labour was often cruelly abused under the system of Domestic industry. "We have conversed," says Dr. Cooke Taylor,[4] "with very old persons who remember when the weavers, or their factors, travelled about from cottage to cottage with their pack-horses, to collect yarn from the spinners, often paying a most exorbitant price for it, which absorbed the profits of weaving. This was the commencement of the system of infant labour, which was at *its worst and greatest height before anyone thought of a factory*." Neither do the attractive pictures of the home surroundings of such workmen, furnished by Mr. Gaskell,[5] the author of "The Marcroft Family,"[6] and others, bear well the cold light of modern

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[1] See chap. viii.

[2] See for many shocking instances the "Report from the Select Committee of the House of Commons on Hand-loom Labour," 1834; *passim*.

[3] P. 325.

[4] "Silk, Cotton, and Woollen Manufactures," by W. Cooke Taylor LL.D., p. 105 (Bentley, 1843).

[5] Pp. 90, 152.

[6] P. 92.

research. "The domestic labourer's home," writes the Honourable C. D. Wright (Special Agent from the United States appointed to enquire into the origin and working of the Factory System there and here), "was far from the character poetry has given it. Huddled together in what poetry calls a cottage and history a hut, the weaver's family lived and worked without comfort, conveniences, good food, good air, and without much intelligence. Drunkenness and theft of materials made many a house the scene of crime, and want, and disorder. Superstition ruled, and envy swayed the workers. Ignorance under the old system added to the squalor of the homes of the workers, even making the hut an actual den, shared in too many instances by the swine of the family. . . . . Small, close, crowded, with bad air, and bad surroundings, the hut of the domestic worker was occupied day and night by a class which has not found and cannot find its like under the factory system."[1] Such statements, and there are many more accessible, must in fairness be set against the idyllic features more often dwelt on when definite results are aimed at.

But it may be said: it is not so much changes of physical condition that are now in question, nor any former type of industry, as the disruption of the ordinary family circle, the separation of its members during the period of work, and the greater personal independence, and consequent loss of parental control, which are undoubtedly fostered by the factory system. To this charge the answer appears to be, that while the

[1] "Report of the Factory System of the United States," by Carroll D. Wright (Washington, 1884).

statement of fact as thus made may be correct, all the inferences from it need not be so. That the tendency of the factory system is to break into the family as an industrial organism is allowed; but it has still to be shown that this is unmistakably an evil. To assume it so is to assume the whole matter in debate. Family life exists primarily for other purposes than industrial production, and the duty of providing for its wants devolves first on parents. To weaken parental control may or may not be bad; according to the character of the parent; whilst to weaken parental responsibility is an evil always. Modern experience is all in favour of limiting the powers of parents over their offspring, and if that limitation arise spontaneously, and in the ordinary course of procuring subsistence, may not this be all the better? Just thus do birds rear their young, and thus despatch them to make their way in life; and just so other animals. Of course there are dangers attendant on such a course, and among them the possible decay of family affection following on the loss of common family interests. But need this be a necessary sequel? The separation of the more sordid interests of life should surely not as a necessity involve the severance of the tenderer ones; are they not indeed in ordinary experience found to flourish best apart? Or if as a matter of fact they do sometimes tend in that direction: if the association in effort, in struggle, and mutual sacrifice is occasionally a strong bond of attachment, is there no middle way, no new course open by which those conflicting requirements might be reconciled: why assume the primitive modes of domestic life to be inevitably the best, rejecting all possibility of evolution in this one sphere? Upon

these points we do not now pronounce a judgment. The experience is perhaps too short as yet, and the facts too little known, and further light may possibly be thrown on them as we proceed.[1] It will suffice for the present to record a verdict of "not proven" in this instance, and pass on to other matter.

There is one charge, however, in this connection which requires to be resolutely met and definitely dealt with, for it involves a constantly recurring error.[2] It is alleged that a result has been to largely increase infant mortality. That charge is totally unproved. In so far as it is capable of disproof it has been disproved.[3] Comparative statistics of the death-rate of young children before and since the introduction of the modern factory are not forthcoming, and can only be surmised; all we do know for certain being that the *general* death-rate has much decreased. But every week statistics are available of infant mortality in various towns of the United Kingdom, including factory towns, and it might be sufficient to show that those exhibit no invariable preponderance. But the truth is far beyond this. Over a wide area of comparison they show no preponderance at all. It could even be argued that they show *the opposite!* Whatever be the cause then of the bad eminence of some towns that are also factory towns, it is clearly not *because* they are factory towns, which disposes of the matter.

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[1] Compare p. 445 and note.

[2] It was officially formulated in a "Report to the Local Government Board on Proposed Changes in Hours of Labour and Ages of Employment in Textile Factories," by J. H. Bridges, M.D., and T. Holmes, presented in 1873, and is repeated in Mr. Jevons' "The State in Relation to Labour," and in some other publications by the same author.

[3] Chap. ix., p. 408 and note.

It would be well if the cognate question of the employment of mothers in factories could be so easily disposed of. Undoubtedly if it were feasible it would be desirable that this should cease; even as it would be desirable that all women weighted with the solemn duties of maternity should be spared all manner of hard work whilst those last. But it is not feasible (we hold) by any isolated statutory order; nor if it were would the reform be quite complete unless it also compelled them to duly fulfil the duties in question as well as to undertake no others. In a few instances efforts in the former direction have actually been made; and in several continental countries there has been legislation on the subject.[1] The matter is one of great delicacy, not properly we believe within the range of positive enactment, except as forming part of a scheme of social reconstruction far wider than any yet openly contemplated by responsible statesmen.[2]

SANITARY RESULT.

The domestic results of the factory system are so closely inwoven with its sanitary results, and both have so near a relationship to moral results, that it is difficult (though not impossible) to consider them apart. Where they can be so considered we believe it best they should be, not alone for the sake of variety, but of affording definite stand-

[1] It is enacted that women shall not be employed for a period of *four* or *six weeks* following their confinement. It is unnecessary to argue seriously how inadequate such a provision is in the interests of the children; and if inadequate it is worse than useless. Further, the provision extends apparently only to special kinds of factory labour, not to all or even the severest forms of it. As for the difficulty of enforcing such a law, it is perhaps best to say nothing about that.

[2] Since the above words were in type a requirement of this kind has become a part of English factory legislation. They must therefore be read as applying to a period antecedent to this time.

points from which a general conclusion may be afterwards inferred from a wider range of facts.

The charge against it of being injurious to the health of operatives is not sustained by evidence. Neither in England nor throughout Europe do the factory towns show a generally higher death-rate than the non-factory towns, nor the countries where the factory system is much in vogue than those where it is not;[1] and taking the whole world over this is equally the case.[2] Coming to particulars, it is found that where the factory and isolated labour systems ("home industry") exist side by side—as for instance in the silk industries of Lyons[3] and the metal industries of our Black Country[4]—the sanitary conditions of the latter system compare disadvantageously with those of the former. The reason is not far to seek. Modern factory labour is usually carried on under the most favourable hygienic conditions that it is possible to obtain, and always under an irreducible minimum of favourable conditions, for, in the first place, the perfection of modern machine industry requires this, and in the second, it is commonly required now by law. In obscurer industries the contrary is the case. They are seldom under so rigid an inspection, and their chance of competing with the greater ones resides largely in the savings they can make in just these particulars. It is difficult to secure good

[1] See two tables in Mulhall's "Dictionary of Statistics," p. 126. The city of Europe which has the highest death-rate is St. Petersburg; the country, Hungary.

[2] *Idem.*

[3] Wright, p. 18.

[4] See Report of the Special Commissioner of the Board of Trade.

air, good light, and proper ventilation, in the rooms of poor dwelling-houses casually turned into work-rooms, but it is possible to occupy them at an extremely low rental and to work extremely long hours there unobserved. There are of course unhealthy occupations carried on in some factories; but they are less unhealthy carried on there than elsewhere. If they are to be continued, it is surely preferable they should be carried on under the better than the worse conditions; and if they ought not to be continued, let them be stopped. It is scarcely too much to say that the healthiest part of a factory operative's life at present is the time spent in his well warmed, well ventilated, spacious place of work, and the least healthful part begins when he leaves it, to return either to his often too confined home, or to other places of resort which he frequents.

The fact is that a great deal of what is commonly charged to the insanitation of factories is connected with a confusion of thought, and should be charged rather to the insanitation of districts where factories are located. Since steam-power became the principal motor these are mostly where population is abundant, and in such situations the germs of disease are necessarily congregated in great variety. If the manufacturing process be an insanitary one as well, it adds of course to the general mass of dangerous matter. To all ordinary sources of ill-health are added then these extraordinary ones; and if the district be poor and very crowded, as too often happens, the evil opportunities are multiplied many times. But "it is not the water, nor the food, nor the absence of food, nor the clothing," says Mr. Leone Levi, "that produces the mischief" (then) "it

is the heedless admixture of tallow-chandlery and slaughter-houses, and the vitiated atmosphere from the black outpourings from the innumerable chimneys."[1] Were the chandleries and slaughter-houses removed farther off; were the chimneys made to consume their own smoke (as they undoubtedly should be); the district would be healthier; but it certainly would not be so if the manufacturing processes were only transferred from buildings appropriate to the purpose to buildings wholly inappropriate.

THE MORAL RESULT.

Closely connected with alarming forebodings as to the evil results of the factory system on domestic life and health were similar ones as to its like effect on morals. It was said that it would assuredly be productive of unthrift, intemperance, incontinence, and many forms of criminality. On the theory of the supreme virtue of the Domestic system there certainly seemed good *a priori* ground for these fears, but, on any wider consideration of the subject, there should rather have appeared similarly good reasons against them. The habits of regularity characteristic of the latter mode of labour would be far more likely, one might think beforehand, to favour thrift (for instance) than those irregular habits which were one of the principal attractions of the former, and which remain one of its principal attractions still. Nor has experience belied this view. Among no class whatever of our population have various forms of co-operative providence flourished more than among the factory population, and the same seems true of other

[1] "Work and Pay."—Two Courses of Lectures delivered to Working Men by Professor Leone Levi—p. 8 (Strahan & Co., 1877).

countries.[1] On the other hand, investigation reveals the domestic worker of to-day more thriftless than the factory worker, and analogy suggests like conditions producing like effects in the case of his predecessor. We are assured, indeed, they did so. "Unthrift and poverty," says Mr. Wright, "do not belong to the factory system of industry to any such extent as they belonged to the system which it supplanted;" while on the more debatable subject of intemperance, the same authority pronounces with no less decision, and we note in this connection the very close interaction of sanitation and morals. "Bad air is one of the surest influences to intemperance, and it is susceptible of proof that intemperance does not exist and has not existed to such an alarming degree under the new as under the old system" (p. 18). . . . . "the investigations of Louis Reyband, a member of the Institute of France, conducted in the name of the Academy of Moral and Political Science, relative to the condition of working men in various branches of industry (there), prove conclusively that the factory operatives are far more temperate than those engaged under the domestic system" (p. 30). The authority of M. Reyband is a high one, and so indeed is that of Mr. Wright himself, whilst no country offers even now a better opportunity for contrasting these two systems than France. At the same time there are special influences connected with factory labour: the monotony of the work, the artificially heated atmosphere, &c.: which, resuming the *a priori* method, would almost force one to infer a too favourable

[1] Mr. Wright speaks with confidence for Canada and the United States, and supplies much useful information, backed by tables of statistics, for many parts of Europe. Pp. 18-30.

judgment in this instance, and it is noticeable that though Mr. Wright declares his statement "susceptible of proof" he supplies no adequate proof of it. But if it really be as he says—and we may ask at all events for good evidence to the contrary before rejecting his—then has the modern factory system one more remarkable and very unexpected triumph to add to the many with which it has been more usually credited.

On the difficult subject of criminal incontinence, we shall be content to quote again from the same writer. This was one of the commonest of all the accusations levelled against the factory system. "The charge that the factory feeds prostitution and swells the criminal lists is absolutely unfounded. This impression first grew from the condition of Manchester (England), where a large cellarage population, which has entirely disappeared, was attributed to the factory.[1] It has been shown by the returns from the penitentiary of Manchester that the ranks of prostitution were not fed from the factory; eight out of 50 coming from the factory and 29 out of 50 from domestic service" (p. 31);—and elsewhere in this most interesting report he argues in the same spirit, "Most of the attempts to support charges of the abundance of crime and prostitution in operative towns in England by statistical tables have been based on the supposition that the great town nuisances are connected with the factory system. This is a fallacy. . . . . An extensive examination of the criminal records of a large number of British factory towns discloses the

[1] To anyone acquainted with the history of modern manufacture this accusation conveys in fact its own refutation with it. The "cellarage population" obviously belonged to the period of hand-loom weaving, not to the modern factory system at all.

fact that neither the ranks of prostitution nor the criminal lists are increased to such extent from the factory populations of those towns as from other classes." . . . . . "This is equally true in this country" (America) . . . . . it is "equally true of France and Germany." "The virtue of the factory women of this country and of Europe will compare favourably with that of any other class, and much better than with many departments of social life." These conclusions apply it will be seen not only to special forms of criminality, but generally, and Mr. Wright further exhibits a table[1] of the number of arrests made in Manchester for all breaches of the law extending over a period of seven years, from which it appears, that "in no year was the proportion of arrests of factory operatives to the whole number of arrests equal to the proportion of factory operatives to the whole population," and this notwithstanding that the period (1874 to 1880) included times both of considerable commercial inflation and severe commerical depression. For several other parts of Europe; and for America; he claims to have established the same conclusions.

Now this is very remarkable testimony. It is so unexpected, so unhesitating, and so contrary to vulgar preconceptions, that it needs to be pondered well before being accepted. It is moreover very recent testimony —which is greatly in its favour—, and it further seems to us that this latter circumstance may possibly afford some clue to the contrast it offers to popular beliefs. Those beliefs were formed on the facts and

[1] P. 31.

arguments of half-a-century ago. At that time (1840) the factory controversy was still raging. Eight years earlier Mr. Sadler's Committee had set about collecting that terrible body of evidence which made interference in all branches of textile industry absolutely necessary; three years later the second Report of the first Children's Employment Commission was issued, calling loudly for an extension of the same principle to other industries; in four years more the long battle of the Ten Hours Bill was lost and won. "The condition of England question" then made and unmade ministries. Since then (until very recently) those controversies, and the evils they brought to light, have receded much into the background. But their echoes have not died away; and it is on them that popular conceptions of the results of the modern factory system have been mainly based. They date from a period before factory legislation had brought those modifications and ameliorations into the operative's lot which have done so much towards raising his social life; they apply to the era not of the present but of the unreformed factory system.

Mistaken notions have sometimes arisen in the minds of onlookers from the appearance and manners of female factory workers, especially in the past. They have been seen emerging from factories, rough, uncouth, loud and hoarse of voice, unrefined in language and behaviour, and conclusions adverse to their moral characters have forthwith been drawn. These are quite unjustifiable. As well draw injurious inferences from the uproarious conduct of children just released from school, for the effects complained of are to a large extent produced in fact by the same class of causes. Both have come from labour where close attention was requisite, and great

regularity of conduct incumbent, and the reaction has taken naturally this form. Another error has a directly physiological basis. It is noticed that girls, and for that matter boys too in factories, are very precocious, and from this observation the conclusion is suddenly jumped to that they are therefore more likely to misconduct themselves than other persons. It is a purely gratuitous assumption. It has never been shown that the earlier or later arrival of puberty has any influence on morality at all; and until ample statistics can be adduced in support of it the notion may be safely dismissed.

When we come to regard morality, however, in a wider sense, and canvass the results of the factory system in that much enlarged sphere of interest, we tread upon more treacherous ground. Have honourable dealing; have justice, charity, and human kindness; have public spirit and private self-sacrifice, been advantaged or not by the new modes in industry? These are very serious questions, and they involve we fear some serious answers, not all of a satisfactory kind. They will be better given, however, to the limited extent they can be touched upon here, in connection with the economical part of this enquiry, to which they are very closely affiliated even if they do not more properly belong.

THE INTELLECTUAL RESULT.

The intellectual results of the factory system may engage our attention meanwhile. These are concerned with quite another class of phenomena, and here again a favourable verdict must be pronounced. It is not the case, we assert, either actually or relatively, that the operative population has deteriorated intellectually since its modern development. It is quite possible, and we hold

it true, that they have deteriorated artistically; but art is a matter of faculty, of perception, of aptitude, rather than intellect. It used to be said, for example, that association with machinery had a deteriorating effect on intellect; but it was probably an artistic deterioration that was meant. Moreover, machinery is not exclusively an adjunct of the factory system: it would hardly be contended, that a woman working a sewing-machine must be on a lower level of intelligence than one using the hand-needle, nor an engine-driver than a teamster. Man indeed has been specifically defined[1] as "a tool-making animal" in particular distinction from others, and if the making and use of tools be a sign of special intelligence, by so much the more, one would say, should the use and making of machines be. As a matter of fact, the progress of the factory system has directly resulted in a very wide diffusion of education;[2] nor should its indirect offices be overlooked. The inestimable importance of order and regularity in daily life has been more than once commented on. The influence on intelligence of constant association with others in a common object could not be easily overstated. The mere exhibition of the skill displayed, and the magnitude of the operations performed, in factories can hardly fail of some educational effect. If man were merely an intellectual animal, or even only a moral and intellectual one (within the narrow region in which we have yet located morals), it could scarcely be denied, it seems to us, that the results of the factory system have thus far been elevating.

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[1] I think by Franklin.

[2] See p. 397.

THE ECONOMICAL RESULT.

But man is very much more than this, and he is also much less. He is swayed by a number of greatly higher and greatly lower motives, and in particular is subject to the strong pressure of economical motives: which may be conceived of in the mind independently of any bias, or kept in subjection by an effort of will, but on the other hand may not, whilst they are potentially present whether so conceived of and controlled or the reverse. It is the result of the modern factory system in this department of action that we now propose to examine.

Usually, results of this kind are summed up in statements affecting the production of aggregate wealth, and the remuneration of labour, but it is not so that we regard them. On the latter point what we have now to say is merely, that whilst it is certain wages have much increased since the advent of the modern industrial system, and certain also that the working-classes are immensely better off, it is not so certain that their condition has improved proportionately with that of the rest of the community,[1] nor when compared with the great services they render it. Good and evil in the economical order are of course comparative terms, and of limited significance, but there is a principle of justice involved in every bargain, and a principle of sound policy too, and both are violated if the worker gets less for his work than he deserves, and the employer gets more. Where this is the case it is the part of sound political economy (we hold) to point out the impropriety, and it is bad economy to postpone

[1] Mr. Thorold Rogers believes that the condition of the working population in the 14th and 15th centuries was on the whole better, relatively to the rest of the population, than it is now. ("Six Centuries of Work and Wages," *passim*.) The socialistic writers nearly invariably take the same view.

redress. In the same vein we are satisfied to take as proven the assertion that aggregate wealth has greatly increased, while manifesting some indifference as to the exact, or even approximate extent to which this has happened. The enquiry we have in view is rather of the results of these and similar admitted facts than of the facts themselves.

Reviewed in this light then, the hundred and fifty years of development which England has undergone under the factory system do not yield, it seems to us, quite satisfactory results. Almost the first fact that strikes one is the condition of anarchy to which the relations between employers and employed have been brought under it. We used to be taught that this could not continue, but must cure itself; capital would be adjusted to labour and labour to capital by the sure operation of scientific laws, acting altogether outside the mere personal entities embodied in those terms. We find just the opposite. It is not the impersonal but the distinctly personal elements that are heard most about in wages disputes to-day, and this in an ever increasing degree; not the laws of "Supply and Demand" and of "Cost of Production" that are the controlling factors, but the *dicta* of this or that particular association of masters or workmen, even the peculiar qualities of that or this particular member of anyone of these. And by what means does either side attempt to bring about a settlement? By some extremely refined and recondite expedient born of modern scientific thought?—not at all; by the coarsest and commonest that can be imagined; by open warfare.[1]

[1] I do not forget the occasional settlement of disputes by arbitration, but the number of these compared with others is infinitesimal.

This is certainly not a satisfactory result, even from the purely economical point of view, and it is a complete falsification of prophecy. It is bad for the producer, and worse perhaps for the consumer; it is a barbarous method of adjusting differences, not a civilised one at all. Take another fact. We were also told by the same authorities how essential the great capitalist was in the organisation of the factory system; not merely *capital*, that introduces another question, but the lucky possessor of it; how the operatives were dependent on him for present support and future progress, and if he withdrew from his beneficent[1] position how the whole fabric would collapse. These were "Captains of Industry," heroes of their kind. What do we see? The successful capitalist does retire, and the factory system goes on without him. He sets up as a country squire, a legislator, speculator, perhaps all three combined; or he merely farms his factory and lives on the interest that another pays him for its use.[2] This notable person has not played that splendid part in industry which was assigned to him; he has been content with the far more vulgar one of a more or less successful trader.

Let us consider another matter. The prime economical feature of the modern factory system is its vast power of production. Hitherto this has been mostly manifested in an increased cheapening of the product, and the modern economist celebrates this cheapness as

[1] Even so recent a writer as Mr. Carroll Wright says (p. 72), that "The weal or the woe of the operative population depends largely upon the temper in which employers carry the responsibility entrusted to them." How writers of the old school, such as Dr. Ure, harped upon the same theme is hardly worth recalling now.

[2] It is not generally known to what an extent this prevails. I am told that in the East Lancashire textile district quite *three-fourths* of the mills are held on this tenure.

an unmitigated gain. Now, like some other positions of the modern economist, it is not quite certain that this is a sound one. Cheapness, to use a convenient paradox, may be bought too dearly. We do not mean at present in the æsthetic sense; to that consideration we shall come afterwards; but in a popular, or even a popularly-scientific one. In both those senses a commodity is only cheap when it is good value for what is given for it: but clothing that won't wear, and cutlery that won't cut are of scarcely any value, however low their nominal price.[1] Individuals may prosper by selling them, but the "wealth of nations" suffers. Even in a much narrower sense it may be questioned if the production of such things is in the long run economically wise. The stigma of producing bad commodities is liable to cling to a producer, and attach to other and quite worthy ones, which will not therefore command a sale. But further, this tendency to flood the market with cheap goods is not only deteriorating to the product and producer, it deteriorates consumers as well, who become at length so habituated to inferior that they cease to demand better goods, or even to distinguish them, and hence the vast sums of money sunk in gaudy advertisements to attract their ignorant attention. It is deteriorating of course to the workman, whose moral sense is blunted by so complete a subordination of all motives to the economic. Now a deteriorated consumer and demoralised workman are surely economical evils, even if the probity of the producer be of no account at all. Formerly such results were clearly foreseen and specially

[1] The conventional economist would reply, of course, that the demand for such things is proof of their value in the economic sense. But that is only postponing the real issue. Is it desirable that such matters should be regarded only in the economic sense?

provided against. When the great figure of Competition began first to loom over native industry, an officer, the King's Aulneger,[1] was appointed to ensure good work and fair measurement (which was also one of the chief functions of the mediæval guilds),[2] and this office or its analogue continued until late in the last century. But from the commencement of the modern factory system no obligation of this kind has been recognised as incumbent on them either by employers or employed. That form of labour has consistently set before itself a baser industrial ideal and conceived its obligations on a lower moral plane. The masters have set themselves to produce what *would sell;* the workmen have formed societies exclusively in their *own* interests. Much of the noble purpose of labour, much of the distinction that properly attaches to it, has been lost in this declension, and while the new producing system has thus profusely supplied the lower class of human needs it has not evoked the higher qualities of human life.

How far this course of action has further embittered the relations between employer and employed already, strained considerably by the wages system and modern facilities of locomotion, it is difficult to estimate, but it cannot have failed of some effect. Classes jointly engaged in production can scarcely really respect each other under the shadow of so sordid an ideal, and in full view of those tricks of trade, which it not only permits, but in a measure even necessitates. And

[1] The office is first mentioned in a statute of 1328, but it was certainly in existence before.

[2] The institution of "staple towns," occurring about the same period, (namely under Edward I.), had a similar effect, part of the duty of their officers being to prevent inferior goods from being sold. The establishment and regulations of market towns were to the same end.

without respect there is no cheerful subordination. Yet subordination is of the very essence of the factory system; and in the long run it must assuredly fail without it. The preponderance of the merely economical motive told with fearful force on factory workers in its early days; it is telling against the masters now, in the utter unconcern shown by the operatives to their interests if by means of combination they can advantage themselves even ever so little. Nor do such motives leave much room for the display of public spirit. The genius of the factory system is not favourable to patriotism. It is not instanced here as necessarily a defect, but merely a result, that the spirit of that form of work is essentially denational and cosmopolitan, in strict accordance with its economic sanctions.

Passing in turn to the economical results of legislation on the factory system we have to notice again the failure of many predictions, while the prospect visibly brightens. The curtailment of work-hours has not acted as detrimentally on the mass of production as was generally expected. This has been partly owing to the employment of improved machinery, but also to the well-ascertained fact that decreased hours of work do not always mean in human labour decreased production; either proportionally or actually; that a man can work better and even sometimes produce more in the shorter than the longer time. Neither has it in the long run lowered wages, as the economists almost to a man foretold it would. For in the first place, factory work is mostly piece-work, and its remuneration is therefore proportioned to the general production (which we have seen has not fallen

off). And in the second place, the factory system has been constantly spreading, which means a continual demand for factory workers; while in the third place, wages have been kept up by the combined action of the operatives, legislation having deprived the employers of their most potent weapon in return by placing restrictions on the employment of youthful labour. Thus while the economical results of modern factory labour have been of a mixed and equivocal kind the results of legislative interference with it have up to the present time been uniformly good.

THE ÆSTHETIC RESULT.

The æsthetic result is on the other hand wholly unsatisfactory. From this point of view there is scarcely a word to be said in favour of the modern factory system. It vulgarises the product, it stultifies the workman, it deteriorates public taste; the very buildings in which its operations are performed, the emanations they emit, give an added gloom to life. It does not seem that this was one of the results particularly foretold. On the contrary, some of the early writers and speakers on the subject anticipated even some advantages to art from its great appliances;[1] it was not then foreseen how completely the gospel of cheapness would swamp all others. Now this is a very serious defect, and the question arises, is it inherent in the factory system, or only one of those remediable evils which have to a great extent been cured in other parts of it. As far as present experience goes it is inherent in it. There are many beautiful fabrics made in factories, and the perfection to which some machinery is brought—the separate parts of which are factory-made

[1] In particular Dr. Ure, "Philosophy of Manufactures," chap. i.

—often strikes one with admiration. But there is no ideality in the work, it is all painfully, obtrusively, utilitarian. This quality of ideality seems indeed to have fled so far from us as to have come to be looked upon at length even with disdain. Yet there is almost nothing which we can afford to part with less. Without the perception and love of beauty, and the sentiment of its appreciation, it is impossible to produce the finest work. Mechanically perfect it may be; but it will not be the best work that could be done even by the same machines, while the highest quality of all will be wanting in the conception and construction of new ones. It is difficult to imagine too a more hopeless lot for our operative population than to be engaged in such labour ; nor a more dangerous one. Will those workers, with ever-increasing knowledge and power, be long satisfied to abide in the darkness of such a life, or will they not some day issue forth and organise a great catastrophe ? Intellectual improvement will not necessarily help us here; for it is just as likely to impel to discontent as quell it. Morality may not prove a sufficient defence; for who shall say on which side the higher morality is ?—the teachings of the great moralists of all mankind have been universally with them. The old domestic virtues will not save us; for these have been sacrificed at the shrine of gain. If our present factory system is to last (which is by no means certain) the effort to make the lives of working people brighter and better worth living should be earnestly and continuously made. Something has been done already in that way by factory legislation, and something by sanitary legislation, and a good deal by private benevolence. More remains to do. The pro-

vision of better dwellings (in many instances); of more frequent recreation grounds and gardens; possibly of more leisure, and certainly of better opportunities of using it, is imperative. All public museums, libraries, and picture galleries should be open at hours convenient to workers. The churches and cathedrals (the property of the nation) should be never closed to them. Public halls might be made available in towns during winter, and public grounds in summer, where military and other bands should play:[1] martial music is inspiring, and all good music elevating,[2] and it is inspiration and elevation that is needed. These are a few things that might be done at once. There are many more that could be done. By some such means that great gap which opened in the life of labour when the handicraft workman of the old time became a factory operative of the modern type, might conceivably be filled up, and even if no longer in his work, then at least in other ways his heart be stirred to pride and gratitude, without which in life there is no content.

REFLECTIONS AND ANTICIPATIONS.

From the foregoing review it seems to follow that many evil predictions which accompanied the establishment of the modern factory system in England have not thus far been verified. Nor does it look as if they were likely to be so soon. Of course we may be deceived. Possibly the worst of this system has not yet been seen.

[1] Incidentally too this would have the excellent result of making the army popular with the masses, who contribute so largely to its support, and see so little of it. How important to the prosperity of any community it is that all classes should know and respect each other need hardly be insisted on here.

[2] The part assigned to music in the education of our elementary schools is one of the brightest and most hopeful signs of the times.

Conceivably a few generations more may witness a development of its bad, and a repression of its good features of which we have now no notion: may see, for instance, the destruction of old domestic ideals dragging a train of calamities with it which have not appeared as yet, or the separation of the worker from a personal interest in his work eventuating really in a brutalised intellect as it has already done in a chilled artistic sense. Possibly again we have not yet seen the best of it. That same lapse of time may find society organised far more fully on the new industrial model, and presenting a consistent and harmonious appearance instead of the incongruous and chaotic one presented now.[1] One thing seems certain, that the present industrial type is not an ultimate, nor anything but a very transient one. Everything about it points to that conclusion. Scarcely is it firmly seated in our midst than we note its lineaments visibly altering. We perceive the capitalist, the pivot upon which we were told the whole mechanism revolved, gradually superseded; we see complicated machinery and foreign motors, once regarded as exclusively pertaining to it, applied to minor industries, and finally introduced into the home itself;[2] sanctions and safeguards of the economic kind, but lately supposed to render it invulnerable, we view stripped from it one by one, and all this too ere it is properly understood, before its limits are assured, or its

[1] As, for instance, by the provision of common dwelling rooms for many families, co-operative housekeeping, co-operative cooking, &c. The present demand for residential "flats"; the success of hydropathic hotels, where many people live together; the mania for Clubs; the formation of the "Girls' Friendly Society," and other symptoms, all point in this direction. Compare p. 424.

[2] See *post*, p. 461.

final triumphs nearly gained. Compare such a fate now with the older types of industry: the handicraft systems of India and China (more than half of all mankind), or the factory systems of ancient Egypt, Phœnicia, and Rome; continued in their essentials till quite recently in our midst. How immature does the new pretender look beside them! Two hundred years ago there was no such thing. For another hundred it was an infant prodigy. Is it as a prodigy only, a temporary aberration from more permanent types, it will be viewed one hundred—two hundred—years hence, as the beginning of a new species, or a link in an evolution towards something else?

A reflection that inevitably obtrudes itself at the close of this long analysis and takes, like the above, the form of an interrogatory, is as to whether we are on the whole better or worse off for the modern factory system? To a large extent this is a useless enquiry, like the question whether we are on the whole better or worse off for railways, steamships, the electric telegraph—and at length for civilisation itself. We cannot go back to anterior times whether we would or not, and the new ones will not be repudiated or ignored. In vain do some modern teachers, estimable and accomplished men,[1] invite us to do so, in vain offer for our admiration, seductive pictures of what were former industrial conditions; we need not (if we would not) dispute the truth of their details, we may even learn valuable lessons from them; but go back we cannot; the past is gone for ever, and with but a fraction of the future can even the most hopeful of us claim to deal.

[1] Mr. William Morris is perhaps the most notable, and is certainly the most brilliant of these. He is also a considerable employer of labour.

But a fraction of the future *is* ours, and a good deal of the present, and that is the all-important lesson. It is for a free people to shape to the largest extent possible their destiny, not for them to sit idly by whilst other influences mould it. The enormous inequalities of modern industrial life are not necessarily permanent, any more than were the atrocious cruelties of the early factory system, or the heavy burdens of serfdom and slavery. They can be, and therefore they should be, remedied. "It is flatly and simply incredible," says a recent writer,[1] "that the same civilisation which has ameliorated the lot of man, and raised him from the degradation in which he was sunk, should, in its natural course and evolution, and by means too of instruments all of which are good in themselves—greater education and knowledge of the arts of life, greater command over physical and material agents, greater powers of production and the rest—so reverse its steady and beneficent influence as to lead men back again into that degradation and dependence from which they have emerged. It is incredible that, after the long struggle of centuries to lift themselves from the slough in which Feudal Inequality had plunged them, men should allow themselves to be enmeshed and fettered by an Industrial Inequality as fixed, as galling, and as hopeless." This need not be then. Combination amongst workers has long since shown how industrial despotism can best be met, and factory legislation has proved that the stubbornest doctrines of economic philosophy may be wrested into a politic shape by steady and resolute action to that end.

[1] "Civilisation and Progress," by John Beatie Crozier, p. 350 (Longmans, 1888)—a very remarkable book.

Arrived at this point, two dangers inevitably confront us. The first is the familiar one of foreign competition, that spectre invoked so often to frown upon the feast as each new check was placed on the unbridled action of cupidity. Well, we have already said something on this head.[1] The danger is no imaginary one, but its most threatening aspect is not that which is commonly supposed. It is not in bettering the position of the labourer there is most to fear, but in the labourer or capitalist (both or either) allowing themselves to fall behind others in industry, ability, and trustworthiness; and in the latter ignoring the obvious tendencies of the times. It is as certain now as anything can be, that wherever our factory system goes, our factory legislation will sooner or later follow, and that by the time the former is nearly abreast of us the latter will be well up too. It seems even likely from some late examples that it is in the latter rather than the former particular we are at the present time behind.[2] If we would retain command of labour then, we must make its conditions lighter, not heavier, to be borne; the day has passed for commanding it on any other terms.

The other danger lies in the misusing that potent weapon Combination, to which labour owes so much. The conflict between employer and employed might conceivably become so keen at length that no terms of compromise could be arranged between them, the worker would refuse to work, the employer be unable to depend any longer on supplies of native labour. What then? In all probability either the compulsory appropriation

[1] P. 163.

[2] Especially in our Colonies. See "Problems of Greater Britain," by Sir Charles W. Dilke, Bart., Vol. II., pp. 289-97 (Macmillan, 1890).

of the instruments of production, or a vast immigration of foreign labour.[1] Now, to what extent are we prepared for either of those alternatives?

This last is a very grave reflection, and may soon become a very pressing consideration. The next that presents itself refers to changes probably more remote. The modern factory system was an unprecedented phenomenon in industry and made its appearance at an unprecedented period in history. Up to the present, notwithstanding enormously increased production, a commensurately increased consumption has ensued, for there have been vast districts of the world to be repeopled, and their increasing population to be clothed and fed. Ere long, or at all events at some quite conceivable time, this movement will have come to an end. Practically it has done so already in places where duties are levied on imported goods and immigration is checked by law. Is it credible that under these circumstances production can go on increasing at the rate we have been accustomed to under the modern factory system; and is it wise to regard it as if always capable of this indefinite expansion?

The effects of machinery on the well-being of workers is another matter of much complexity, which continually presents itself as a subject for reflection. Have operatives benefited on the whole by the general introduction of machine labour in factories, independently of

[1] The latter contingency was long ago foreseen by Professor Fawcett, who foretold that German immigration to England, of which we have heard much lately; and a possible Chinese one, of which we have happily not heard much yet. See "Economic Condition of the British Labourer," pp. 248-56 (Macmillan, 1865). See also, on the latter point, "China, its Social, Political, and Religious Life," translated from the French by G. E. Simon; p. 79 (Sampson Low, 1887).

the question whether its introduction could have been prevented? We believe they have, partly for reasons that have been stated already (chaps. i. and viii.),[1] and partly for some which have not been stated yet. A great deal of hard work has undoubtedly been thus spared to them, and their energies thereby set free to seek other channels of activity. The remuneration of their labour has steadily risen under the changed conditions and their margin of comfort been enlarged, and, so far as can be foreseen, these results are not merely fortuitous, but may be expected to continue.[2] On the other hand, it has to be remembered, that such results generally take a long time to come about; that much misery may be endured meanwhile; and that the monopoly of machinery by the wealthy members of a wage-paying community gives them a position of great economical advantage over the more indigent ones. What would seem to follow is that this monopoly, like any other, requires to be carefully watched lest it degenerate into tyranny, but that if it be so watched, and the leisure which machinery procures for workers properly used (and especially in procuring a high development of civil and political freedom), the machinery itself is an advantage.

Many more reflections must occur on even the most superficial review of the path that has been traversed, but space will not permit of their being pursued. A few take the form of anticipations, and these only will be proceeded with before bringing the whole subject to a close.

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[1] Pp. 33, 339.

[2] In "Wealth and Progress" by Mr. George Gunton; chap. ii.; this question is discussed with much originality and insight (Macmillan 1888).

LABOUR IN SHOPS.

The first anticipation that presents itself refers to further legislation. It is not quite certain that other characteristics of the modern factory system will spread much more, but it is certain that the system of Government superintendence, originally devised for a special class of factories, then extended to all Factories, then to Workshops, and now demanded for Home Industry, will ultimately be expanded so as to cover most branches of productive labour. Among these labour performed in shops occupies a rather peculiar position. In the first place, is such industry productive labour at all? It undoubtedly is so. Even in the views of the orthodox economists commodities are not said to be fully "produced" until they are handed over to the consumer;[1] and the separation of the shop and workshop is after all only a matter of convenience, not principle. In the second place, are the incidents of shop labour ever of a kind to call for public supervision—like those in the factory and workshop? They have long been acknowledged to be so. Are the objects of legislation the same? They are the same. Any special difficulties of inspection? There are none; a shop is open to the view while work is going on there and can be entered as a matter of course; a workshop or factory is much more difficult of access. Any particular inconvenience likely to be caused to consumers by closing them at fixed hours? No more than is caused by the closing of banks and other offices, which have generally very rigid rules; the closing hours must be fixed for suitable times, that is all. Why then are they

[1] "Principles of Political Economy," by John Stuart Mill; Vol. I., p. 48.

not legislated for? In point of fact they are, but in an inadequate way. The law is not carried out.

It should be a safe anticipation that this state of things will not be allowed to continue always.

ADULT MALE LABOUR.

Another one, which acquires strength daily, is that adult male labour will with increasing persistency demand to be included within the scope of factory law. It is not in fact wholly outside it now. Those provisions of the current Factory Act which relate to sanitation, to fencing machinery, and reporting accidents, are equally in force for men, women, and children, and in other indirect ways, as has been shown,[1] a like influence is exercised over all of them. A still more stringent and direct one is exercised in mines, alkali works, bakehouses, and some other places. But further, a statute passed in 1883 enacted rules for men and women alike, employed in factories, exceeding in the way of protection any similar legislation ever enacted only for young persons and children there. The provisions in question are concerned about White Lead Works. At these places there are to be provided for *all persons* employed "sufficient means of frequently washing hands and feet, with a sufficient supply of hot and cold water, soap, towels, and brushes." There must be a separate room for meals; a special suit of clothes: and a *respirator* for those requiring one; and, lest any should become thirsty with their exertions, "there must be accessible to all persons employed in the factory *a sufficient supply of acidulated drink*."[2] A still more recent statute,

[1] P. 407.

[2] 46 and 47 Vic., cap. 53, sch. 6.

"The Cotton Cloth Factories Act" (1889), prescribing the proper temperature for weaving sheds, knows no distinction of persons. These are laws that have been actually passed. There are certainly more to come. The agitation amongst railway and tramcar men for legal protection will probably not be resisted always. Mr. Jevons ("The State in Relation to Labour, p. 65") unequivocally pronounces in favour of a factory act for men where a proved need of it is shown; and many prominent modern politicians take the same view. It is difficult to see indeed how it can be logically resisted in view of the arguments found cogent in the case of women, however strong a part expediency might be properly called upon to play in the settlement of the matter. These, it is said, are in need of protection because they cannot—or at all events do not—combine to secure it for themselves. But if there be a class of men equally helpless and unorganised are they not equally entitled to the same consideration? Is there in fact any portion of the community not having potentially such a claim on it? The argument becomes stronger if one considers the alternative proposal. This is to force all workers into Trade Unions (much as another set of thinkers would force all handicraftsmen into factories), that is to create an *imperium in imperio* within the State and class interests of the most formidable kind. Such a prospect may be better or not than that of a wholly unorganised labour market, but assuredly it is not without its terrors, as history and our own experience show.[1]

[1] Some very recent experiences are much to the point. Let us try to imagine what a general strike of gas-men, postmen, or railway officials would mean.

COMMODITY AND SERVICE.

Could we suppose a law of this kind passed, it would be concerned only about producers; it would have no reference to the product. The difference between free trade in commodities and free trade in labour is the difference between treating your human brother as a living soul and as dead matter. A more difficult point is raised when it is sought to set up a clear distinction between service, as rendered by a domestic servant for instance, and by an operative in a mill. Some orthodox economists will allow of no difference here, and (if they favoured factory legislation at all) would favour, we must suppose, a factory act for domestic service. Nevertheless, however difficult it be to define the difference, we are conscious that it exists. A servant enters your employment under ordinary circumstances to *wait upon you*, not to perform any one specific act; and the contract between you is distinctly made on that basis. Moreover, there is an unwritten code of custom in domestic service which has all the force of law—and is indeed enforced by it in extreme instances—, which is no longer the case in industrial employment. Furthermore, and this is an important point, this class of persons is not in the condition that calls for interference: they are not helpless nor the subjects of economical tyranny, but, on the contrary, have very much the control of the market themselves, the demand for them (for capable ones) being perennially in excess of the supply. There may be indeed a low class of very inferior servants who are badly treated, and it is shocking of course they should be so. They have, however, the protection of the Common Law in the last resort; and it must ever be remembered that Common Law in this country has

constantly and beneficently interfered between masters and servants in the domestic sphere while it has resolutely stood aloof from interference in the industrial.

But it is not unlikely that these ideals may change, as industrial ideals have done. Servants will become more of the nature of temporary helpers in the home; like shop attendants; their duties more definite, and their interest in the general concerns of the household more remote. It is even possible to anticipate a time when they would cease to live in their masters' houses, or to work in them beyond a stipulated time each day (a practice not uncommon in new countries now). Something like this is in fact the position occupied by "barmaids" at present; and an agitation has already commenced to extend to them statutory protection. It is difficult to see, in face of the facts adduced, how this demand can be resisted, and if conceded, the next step might easily be to the hotel servant[1] and lodging-house drudge, and "Home Industry" come to acquire quite a new and very extended significance. The mere possibility of such a one being evolved in connection with factory legislation shows how far this latter has travelled from its original scope and meaning, and to what a pass the confusion of subject, object, and sanction, that has characterised it from the first has brought it to at length.

IMMATERIAL PRODUCTS.

A still more puzzling matter remains unsettled. The narrow definition of wealth favoured by modern economists leaves a large number of useful occupations outside the pale of material

[1] It is an open question if a cook making pastry in a hotel is not even now properly under the protection of the Factory Act (41 Vic., cap xvi., sec. 93, and sch. iv., part 2).

industry or of even any service of a material kind. Such are those resulting in what are called "immaterial products"—things that cannot be handled, weighed, and passed about. Will these be further legislated for? Now, in any reconsideration of the definitions of Political Economy (such as must probably take place ere long) it is not unlikely that a new position may be assigned to industries of this kind, or at least to some of them. "The labour of clerks and salesmen is productive labour as much as that of the artisan or agriculturist," says Mr. F. A. Walker ("Political Economy,"[1] p. 81), and that of the artisan or agriculturist—of course—as the factory operative. The position of teachers in schools (and elsewhere) is another case in point. Or take that group of industries pertaining to theatres, shows, and places of public entertainment. In 1879 "The Children's Dangerous Performance Act" was passed, recognising (though inadequately) the principle of protecting occupations of this kind, and quite lately (1889) the same principle was adopted in "The Cruelty to Children Act," which forbids under the penalties of the Factory Act the employment of very young children, and even appoints the factory inspector to enforce its mandate. These no doubt are small beginnings. But precisely in such small beginnings lay concealed the germ of the present enormous growth of factory law and by precisely such roundabout processes was it attained. It is a not unlikely forecast that something further will be done in this direction, and that it will take the form of a reconsideration of the terms "productive" and "unproductive" as applied

[1] Macmillan & Co., 1885.

to human labour, and of the sanctions of protective labour-legislation in that regard.

Where then is such legislation to cease? Is the student to be prevented in his studies, the philanthropist in his untiring efforts to do good? Not so. No one (so far as we know) has ever proposed a factory act to prevent anyone overworking himself or herself, but only to prevent the overwork, or other ill-usage, of those whom he or she *employs*. That is the essential difference; this the position won by factory legislation in its long evolution. It is more and more held unbearable that one person in a free state shall exact service from another without a full consideration by the rest of the community of the circumstances under which he does so and a resolute insistance that these shall be as little burdensome as they can be reasonably made.[1]

THE EIGHT HOURS DAY.

A movement that is attracting much attention, and which it will be well to meet from the first in an amicable spirit, is that in favour of a general compulsory eight hours working day. Let it be remembered before such a proposal is condemned utterly that it was actually the rule among our ancestors, and is at the present moment the law among many of our colonial fellow subjects.[2] Having got that far, however, we may next reasonably enquire,

[1] This conception of the purpose of factory legislation, it will be noted, is in direct opposition to the teaching of two schools of thought which are just now rather prominent; that of certain agitators who seem to regard it as principally complimentary to Trades Unionism, and of the Social Economists, who see in it mainly a device to equalise as nearly as possible all productive effort. Compare on the latter point "The Eight Hours Day," by Sidney Webb, LL.B., and Harold Cox, B.A., p. 183 (Walter Scott, 1891).

[2] See *ante* p. 272; and, on the general question of the Eight Hours Day, a really remarkable article by Mr. Sidney Webb in the *Contemporary Review* for December 1889.

why *eight* hours? Why, in a country where sixteen are commonly worked—even by women,[1] where twelve hours (*i.e.*, fourteen with two out for meals) is actually legal time for a considerable fraction of the year,[2] make the astonishing skip to just eight? Sir Thomas More, as is (or ought to be) well known, suggested a general working day of nine hours, and some of our trade unions have practically secured that limit to their members. In textile factories the statutory hours are ten a day (excepting Saturdays), and in non-textile factories ten hours and a-half, while, in both, adult men commonly work much longer for higher pay. If there is to be compulsion in this matter why begin then at the wrong end? Why not enact for a commencement that no one shall be required to work sixteen hours, or fifteen hours, or fourteen hours? — and when this requirement is thoroughly carried out consider next about a shorter limit. Let it be granted that the present hours of labour (especially in unskilled trades) are too long; let it be further granted that it is desirable to shorten them by law;[3] let it be granted again that shortened hours do not necessarily mean lessened production: can any course be conceived more likely to prejudice the very end in view than to be required to proceed at a bound

[1] See "Death and Disease Behind the Counter" by Thomas Sutherst, Barrister-at-Law, pp. 133 *et seq.* (Kegan Paul & Co. 1884), where ample evidence is accumulated.

[2] 41 Vic., cap. xvi, sec. 53, and sch. iii., part 3.

[3] It seems that this is taking a good deal for granted. When the Factory Act now in operation was under debate in parliament, a well-known member apostrophised the minister who had charge of it (Lord Cross) in the following terms:—

"For Cross is a jolly good fellow, whatever the *Rads* may think,
He has shortened the hours of labour, and lengthened the hours for drink."

This is not a very hopeful view of its probable result.

from sixteen—fifteen—fourteen—to just eight? We may brush aside without much comment many ingenious arguments usually brought to the front in this discussion. We may suppose (if we like) an international labour law already enacted, and obeyed; we may believe it shown to everyone's satisfaction that in curtailing the labour of regularly employed persons we are assuredly making provision for the unemployed; that a man (or woman) will do as much work in eight hours as sixteen; we may imagine any and whatever debatable propositions proved, yet does the old experience remain, that violent enterprises lead commonly to violent reactions—when they do not issue in absolute disaster—and that it would be better to proceed cautiously in a change so radical. Somewhere or other, no doubt, the proportion between the amount of work a human being is fit to do and the amount he should be called upon to do resides; at some time or other, we may hope, the working class will begin to enjoy those opportunities of increased leisure which, they are assured, the mechanical inventions of the last hundred and fifty years have given them; but there is a limit on the other side too; if it be possible to jump without detriment from sixteen hours of work to eight, why not as easily from eight hours to four, from four to two, and in ultimate analysis to no hours at all? These are some of the doubts that must be resolved in the minds of reasonable men before a universal compulsory law of this character can be approved.

CO-OPERATION.

Among reflections recently made was the disappointing one of the strained relations often existing under the modern factory system between employers and employed. Some

grave dangers were pointed out which the future may have in store for us in this connection, and the inconveniences of the situation must be patent to everyone. The cure most usually proposed, and much favoured by "orthodox" writers, is that of Co-operation. But this term requires to be defined. Popular conceptions of it err in two opposite directions. The form in which perhaps the majority of people recognise it now is that of the so-called Co-operative Stores which have of late sprung up with such rapidity in our towns and villages. Few of these, however, are true co-operative enterprises. They are mostly joint-stock distributive companies, trading on a large scale and exclusively for cash; instances of concentration of labour in the sphere of trade, as factories are in that of production. True co-operation means that all co-operators are part proprietors,[1] sharing in the profit and loss of the undertaking; and there is another system (not much availed of) called Co-partnership or "Profit-Sharing," [2] where the workers receive a percentage of the profits but do not bear any of the loss. On the other hand co-operation must not be confounded with Collectivism, the object of which is to abolish competition, which among co-operative traders may be, and in fact often is, just as keen as among individuals.

The advantages of true co-operation are easily apparent. It ameliorates the rivalries of capital and labour, and restores to workmen some personal interest (though

[1] The whole subject of co-operation is treated in a masterly manner by Mr. J. S. Mill, "Principles of Political Economy" (book i., chap. viii., and again book iv., chap. vii.).

[2] Mr. Sedley Taylor is the great apostle of this system, and his remarks on it are always worth reading.

but a mercenary one) in their work, and it effects large savings in the cost of production. In a time of bad trade it admits of wages being reduced without the prospect of a strike, and of machinery standing idle without the certainty of workpeople being scattered. It is a remarkable fact, however, that during the last half-century comparatively little progress has been made in the productive branch of it, notwithstanding the high hopes entertained in the earlier decades of this period. Of Joint-Stock associations there has been a prodigious development; but not of this form of association. The reason usually assigned is that the operative is not yet educated up to the level of intelligence and public spirit requisite in true co-operation, (and which would certainly be still more requisite under Collectivism), and there is much in this view. But there is also another reason. The immense scale on which modern industrial undertakings are conducted does not lend itself easily to the co-operative method of production. Just as a large Republic is more difficult to administer than a small one, so is a large co-operative enterprise. Where co-operative production succeeds best as yet is in industries of the smaller kind, or conducted at all events on a smaller scale, requiring no great outlay of capital in the first instance, and trading on the well-understood principle of small profits and quick returns; and its best hope will continue to reside, we believe, in these comparatively unambitious efforts while the special characteristics which distinguish the modern factory system last. So long as coal, ever increasing in price as it decreases in quantity,[1] continues to

[1] About two years ago the President of the Manchester Geological Society, Mr. Henry Hall, H.M. Inspector of Mines, delivered an address in

furnish the most effective motive power, and transport is so costly; while the present forms of machinery (with all their ponderous paraphernalia) remain, and it is cheaper to aggregate them together in large establishments; so long will co-operation necessarily lag behind as an economic expedient in production.

FRESH MOTORS.

But now, supposing a radical change in some or all of these conditions. Suppose transport much reduced in cost; machinery far less bulky; above all, suppose the advent of an entirely new motor. These are not wild, nor even unlikely suppositions. New motors and lighter machines are in fact surely making their way in industry, widely in this country and still more so in America. It is not too much to say that the industries of many large cities both there and here have already been partly revolutionised by the introduction of the gas engine, and oil engine, and hot-air engine; and the novelty is spreading. Small motor machines affect industry in two ways. On the one hand they further facilitate and abridge handicraft labour, and on the other they endow it with the characteristic advantages of modern factory labour without necessarily imposing on it the characteristic features of the factory system. Take, for instance, any of the now numerous gas engines. They are small, portable, silent in action, their gearing of the lightest, their management quite simple. You can turn on or off the power required as you turn on or off the gaslight in your sitting room. It is no longer needful to bring the fuel to the manufacture nor the manufacture to the fuel; that is all

that city on "The Duration of our Coal Supply," which he calculated at something under 150 years. Mr. Jevons, as is well-known, assigned even a less period than this.

accomplished for you at some distance off, and the motive agent conveyed in tubes out of your sight and delivered to your hand; you simply pay for it as you pay your other household expenses:—it becomes, in short, one of them. Let us consider what this means. One thing it means is setting a possible limit to the "March of Concentration";[1] it means a return (if desired) to the domestic system of production *plus* all the advantages of exterior mechanical power and machine industry. That reconstruction of society on the lines of the modern factory system—as yet partially performed and in the throes of which such shocking cruelties were committed—becomes henceforth optional, the household organisation is preserved, and family life remains. But gas is not produced without combustion, and combustion in our country involves coal! Not necessarily. Water can be burned as well as coal, that is one of its constituent parts can. The process of making water-gas has not yet proceeded far enough for one to foresee more than dimly what possibilities may be in it, but if by some means native hydrogen could be utilised at a small cost as fuel what a revolution might ensue. The supply of water is practically limitless; for more than two-thirds of the surface of the earth is covered by it; it is above us, below us, and within nearly everything we know. Let us imagine then our mechanical motive power drawn once again from water; no longer now from falling water and in the picturesque gorges of mountain streams, but from the heavens above, the earth beneath, and the "waters under the earth," from the fleeting

[1] On the "March of Concentration," see "Social Problems," by Henry George, p. 38 (Kegan Paul & Co., 1884).

cloud and circumambient sea. Or suppose a subtler, and, if the latest modern research be right in its conclusions, a more pervading agent still; suppose electricity fully harnessed at length to industry. What is electricity? We learn now it is one with the ether that fills all space; that it is not only practically, but *actually*, limitless. It is but required to get proper hold of it then, to manipulate it with the same ease we manipulate other motive powers, for it to serve all the same purposes. Let us momentarily follow up this clue.

The two great problems in practical electricity at the present time are its economical generation and storage in sufficient quantity. The latter difficulty is being rapidly overcome, and we may pass it by. The generation of electrical power is performed by an engine called a dynamo. The dynamo, stripped of technical details, "is a machine for transforming energy; it converts mechanical power into that phase or manifestation of energy which we call electricity."[1] Wherever there is energy in nature then, and nature is one vast complex and concatenation of various energies, there is the source of this new power. The sun that gives light to our planet is a vast centre of such energy, and we do occasionally entrap some of its atoms to use for industrial purposes:—in photography for instance. But prodigious quantities of it go to waste, by reflection, by refraction, in an endless variety of ways.[2] Now, if we

[1] See a very remarkable article in *The Century Magazine* of March 1889, called "Something Electricity is Doing," from which the above, and some subsequent quotations are made.

[2] "We know of no process," says Mr. R. A. Proctor, "which can be for a moment compared with the sun's activity. Indeed, almost every other process or form of energy with which we are acquainted is a direct product of the solar energies. Now it is a strange, one may almost say a fearful thought, that the products of this tremendous and constant activity are,

could only get hold of some of this wasted power at first hand and transform it as above. After long ages of imprisonment underground we do so get hold of some, and use it in our grates as coal. If we could but intercept it earlier! Again, the moon and motion of the earth combined produce the diurnal sequence of the tides. What a mighty source of energy is here. Can it be that it is fated for ever to go to waste; that in this mechanical, inventive age, there is no better fate reserved for it? Or let us suppose all initial difficulties surmounted; there is an ample supply of ever accessible transformed mechanical power in the required form: what will be the effect of its application to manufacture? "A motor of one-eighth horse-power weighs, at present, only fifteen pounds, and measures $7\frac{1}{2}$ by 5 by 3 inches. It can be placed in any position, right side up, upside down, or fixed sideways to a wall, and will deliver power from its pulley in any required direction. . . . . An electric motor will operate in any ordinary temperature and in any climate, provided it is kept dry. It is practically cold: that is, it gives out no injurious heat while at work. Even when running at very high speed it is safer, so far as mechanical injury is concerned, than any other kind of machine or motor," . . . . . and it "*receives its supply of energy through a wire.*" Upon this last point let us further fix especial attention

according to our way of viewing the matter, almost utterly wasted. Only one ray out of two thousand millions emitted by the sun falls on the earth; and not more than one ray out of two thousand and thirty millions falls on any of the planets. All the rest are poured into the star depths, and serve no useful purpose of which we have (at present at least) any cognizance whatever. Compared with this, no instance of apparent waste among the myriads of such instances which nature presents to our view, seems worthy of a moment's thought."—"The Poetry of Astronomy" (Smith & Elder, 1881).

for a while. "Observe the structure of the buildings where other power is used. In such buildings the walls and floors must be strong and stiff to resist the jarring and weight of heavy engines, and to keep the shafting in line, so that all points of bearing and strain shall be firm and not wasteful of power by unnecessary friction. With the electric motor, particularly if the power is sub-divided among a number of small motors, lighter and cheaper buildings can be used. In place of one large engine in the basement, with belts and shafting to the upper floors, the engine may be in another building perhaps a mile away, and the dynamo may transmit its energy through wires branching to every floor or to a hundred motors on one floor." Equally well might it transfer its energy to a hundred separate buildings, and still by a single wire, whilst all the while affording means of instantaneous and inexpensive communication throughout. A village, a town, or even a whole district, might thus by these almost imperceptible means be practically as much united as a single building, and labour (if that were desired) be still as much combined. All that the gas-engine has done for the smaller industries, all that gaslight has done for illumination everywhere, and much more; the electric motor might do for the greater industries, or for both. From the single sempstress bending over a sewing machine in her lonely garret to the vastest trade establishment it would be equally applicable; so much power would have to be arranged for, that is all, and the poorest workman have command over it to the extent of his needs alike with the richest capitalist. These changes may not be for the immediate future, but that something resembling them belongs to the not distant one is an anticipation that

under present circumstances can scarcely be called extravagant.

LAST WORDS.

Should that time come, the end of the Modern Factory System will have been reached. What form the industrial organism that will supplant it may assume cannot be easily foreseen, though we are not without some hints of its probable lineaments. It is unlikely that concentration of labour would be carried much farther in manufacture the particular necessity for it having thus ceased. It is tolerably certain that machinery would play an increasingly large part in production, but increasingly too for the benefit of all engaged in producing. Nearly equally certain is it that the motive power employed in manufacture would be no longer the monopoly of the capitalist, but at the disposal of the municipality, commune, or other local body. The social organisation would be probably of a much more associative kind, tending towards, if not actually realising, true co-operation. That familiar edifice the factory of the modern era, with its bare, bleak, grimy walls, visibly palpitating in all its parts, and vomiting black smoke, will have likewise passed away, and with it many characteristic features dwelt on in this narrative. In particular will have passed away the special need for factory legislation, for all legislation, dealing with industrial production in an exceptional manner, the requisite counterpoise to the despotism of capital being present in some far more comprehensive form.

Or should that time not come and the present system remain, it is something to have shown in these pages that there need no longer be felt about it those fears which so greatly agitated our forefathers, that there

is no danger of a recurrence of the atrocious evils by which its earlier days were characterised. There will remain with it also that beneficent body of law which, under the now misleading title of factory legislation, is gradually overspreading all industry, to raise it again from a new serfdom by means most in harmony with the spirit of the age and the prodigious changes of modern life. For just as the modern Factory System was but a novel incident in the history of labour, so is factory legislation but a new protest against the old forces of selfishness and cupidity, and a new method, suitable to modern institutions and ideas, of holding them in check. These are the permanent elements of this great problem of the regulation of labour in any free community, beside which the particular forms they manifest, and particular areas they fill at any special period of evolution, are of but insignificant and temporary interest.

And with these words, it seems to us, we may not unfitly conclude. As we do so the signs of coming change crowd thick around and the air is filled with omens. Will our rulers read them right? They may or they may not. The matters that await decision are of extreme delicacy and need both firmness and discretion. Our part we feel is done in having sought to trace the course of that history from which alone a proper comprehension of the subject, is ever likely to be gained.

THE END.

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